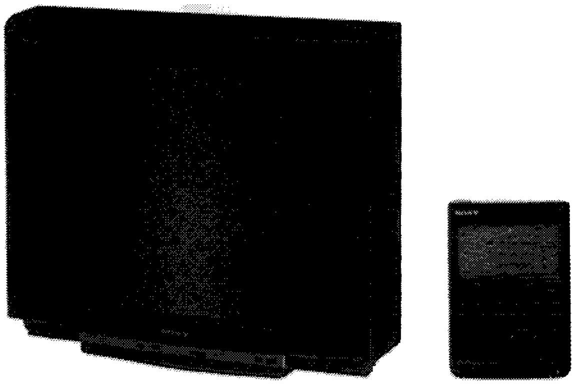
KV-32XBR90S
RM-AV1100

SERVICE MANUAL

US Model
Chassis No. SCC-F16F-A

Canadian Model
Chassis No. SCC-F17E-A



FN CHASSIS

MODELS OF THE SAME SERIES	
KV-32XBR90S	KV-27XBR35/32XBR35
KV-27XBR95S/32XBR95S	
KV-27XBR25/32XBR25	

SPECIFICATIONS

Television system: American TV standards

Channel coverage: VHF: 2-13
UHF: 14-69
CABLE TV: 1-125

Picture tube: Microblack™ Trinitron® tube
32-inch picture measured diagonally
34-inch picture tube measured diagonally

Antenna: 75 ohm external antenna terminal for VHF/UHF

Input jacks: VIDEO IN 1, 2 and 3
- S VIDEO IN (4-pin mini DIN)
  - Y : 1 Vp-p, 75-ohms unbalanced, sync negative
  - C : 0.286 Vp-p (Burst signal) 75-ohms
- Video (phono jacks) : 1 Vp-p, 75-ohms unbalanced, sync negative
- Audio (phono jacks) : 500 mVrms (100% modulation) Impedance : 47 kilohms
- CONTROLS (mini jack) 5Vp-p

Output jacks: MONITOR OUT
- S VIDEO MONITOR OUT (4-pin mini DIN)
  - Y : 1 Vp-p, 75-ohms unbalanced, sync negative
- Video (phono jacks) : 1 Vp-p, 75-ohms unbalanced, sync negative
- Audio (phono jacks) : 500 mVrms (100% modulation) Impedance : 10 kilohms
- CONTROLS (mini jack) 5Vp-p

AUDIO OUT
- (phono jacks) 900 mVrms (100% modulation) Impedance : 5 kilohms

- Continued on next page -

MICROFILM

TRINITRON® COLOR TV
SONY®

Power requirements	120 V AC, 60 Hz
Power consumption	180W
Dimensions (w/h/d)	794×663.5×586 mm (31 3/8×26 1/8×23 1/8 inches)
Weight	75.1 kg (165 lb 10 oz)
Supplied accessories	Remote Commander RM-AV1100 (1) with 6 size AA (R6) EVEREADY batteries
Optional accessories	U/V mixer EAC-66 Connecting cable RK-74A VMC-810S/820S YC-15V/30V

Design and specifications are subject to change without notice.

(CAUTION)

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

WARNING!!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

(ATTENTION)

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURTCIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

ATTENTION!!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÁSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE. LE CHÁSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ Á L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS ÁLA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET PAR UNE MAPQUE ⚠ SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIECES CONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY. LES RÉGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT SONT IDENTIFIES DANS LE PRÉSENT MANUEL. SUIVRE CES PROCÉDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNEMENT EST SUSPECTÉ.

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SAFETY CHECK-OUT

(US Model only)

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the condition of the monopole antenna (if any). Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.
8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a coldwater pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60-100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)

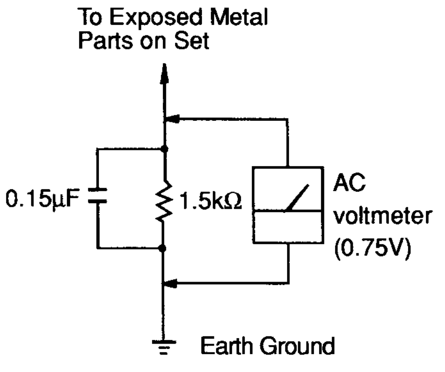


Fig. A. Using an AC voltmeter to check AC leakage.

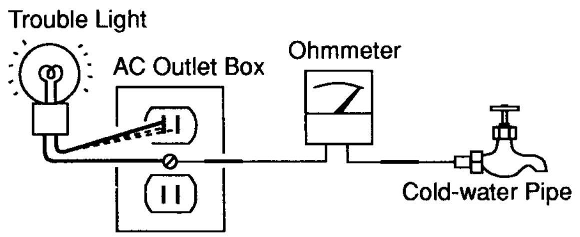


Fig. B. Checking for earth ground.

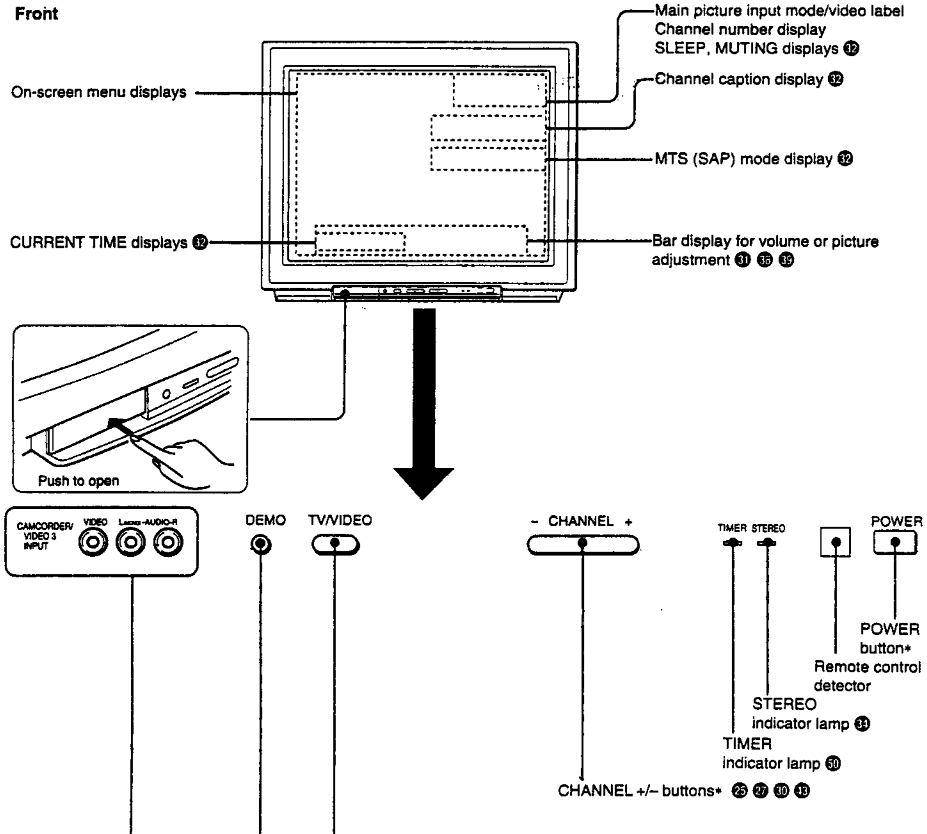
SECTION 1
GENERAL

This section is extracted from instruction manual.

1-1. LOCATING CONTROLS AND CONNECTORS

For details, see the pages indicated by the numbered black circles ●.

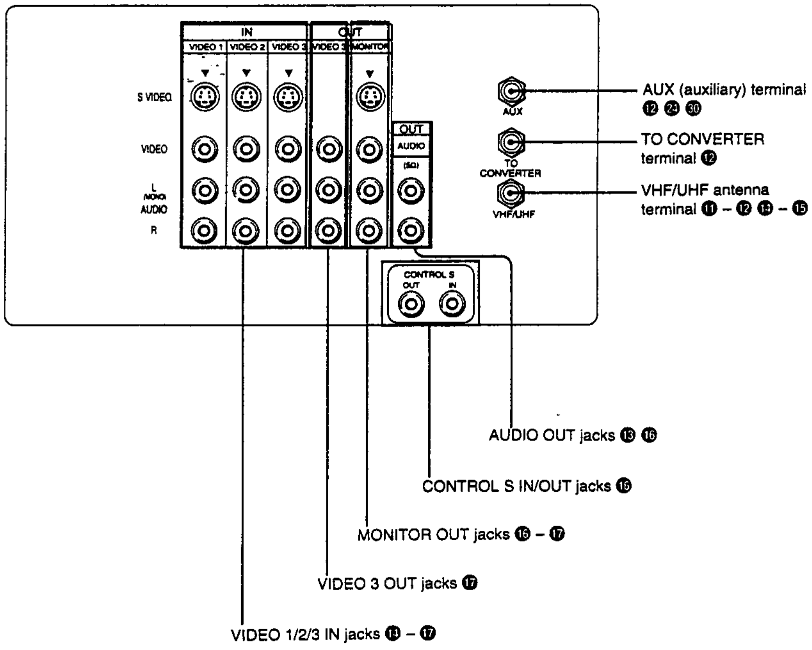
Front



* Buttons or keys with the same function are also located on the Remote Commander (pp. 8 – 9)

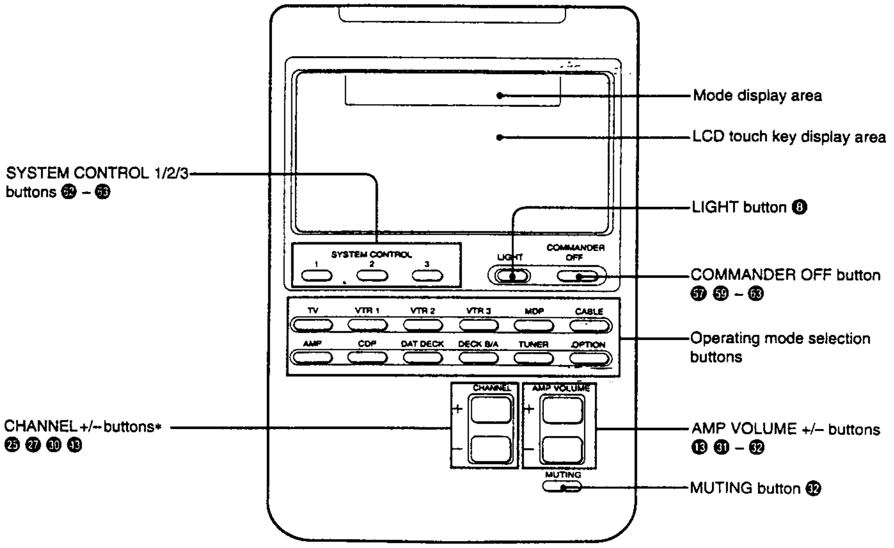
Note
The instructions in this manual are based for the most part on operating the TV with the Remote Commander. You can also use the buttons on the TV that have the same function.

Rear



— 5 —

Integrated Remote Commander RM-AV1100



* Buttons with the same function are also located on the TV (p. 6).

Using the Remote Commander

To display the equipment operating keys
Press the button of the connected equipment you want to operate.

To operate non-Sony equipment
Set the manufacturer code (pp. 57 – 58), or perform Learning (pp. 59 – 60).

To control the volume
Connect an amplifier (p. 13), and then control the volume with the AMP VOLUME +/– and MUTING buttons.

For a complete view of the LCD key displays, see "LCD Key Display Quick Reference," pp. 66 – 67.

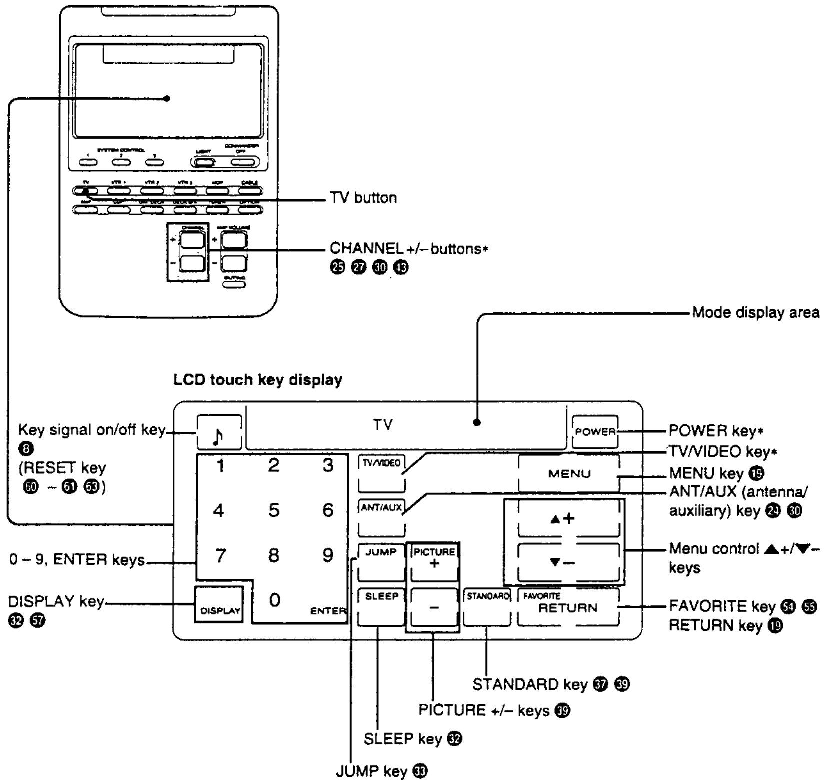
To light the LCD touch key display area
Press LIGHT.
Press LIGHT again to turn off the light.
The light goes off automatically in 20 seconds if you do not touch any keys.

To turn off the touch key confirmation beep
Touch ♪ (key signal on/off key) in any equipment operating key display.
When you touch the keys, there will be no confirming beep.
Touch ♪ again to restore the beep.

Displaying the TV operating keys

Most of the functions in this manual use controls found among the TV operating keys.

To display the TV operating keys
Press TV.

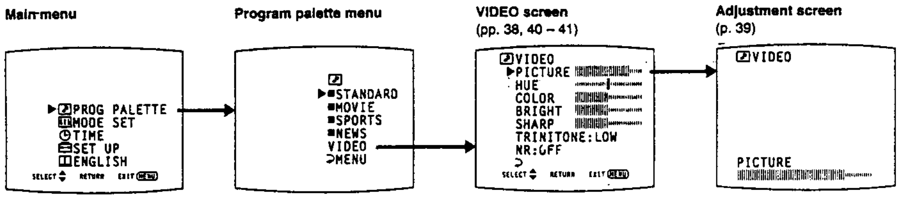


* Buttons with the same function are also located on the TV (p. 6).

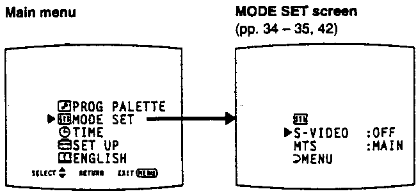
1-2. USING THE ON-SCREEN MENUS

The following flow chart shows the different levels of on-screen menus that you can use to make various adjustments and settings. See the indicated pages for instructions on using each feature.

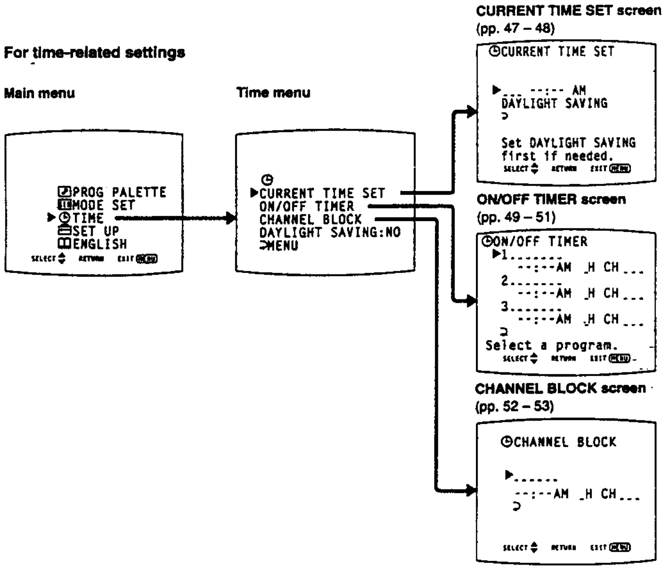
For picture and sound quality adjustment



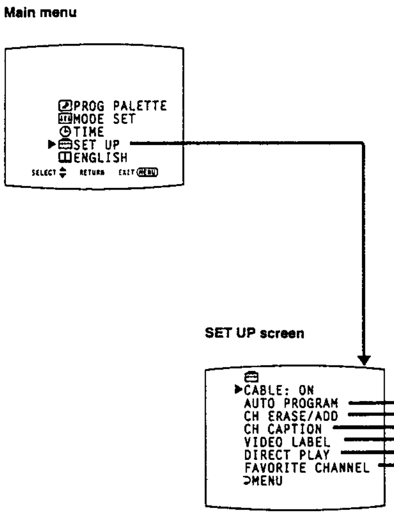
For mode adjustment

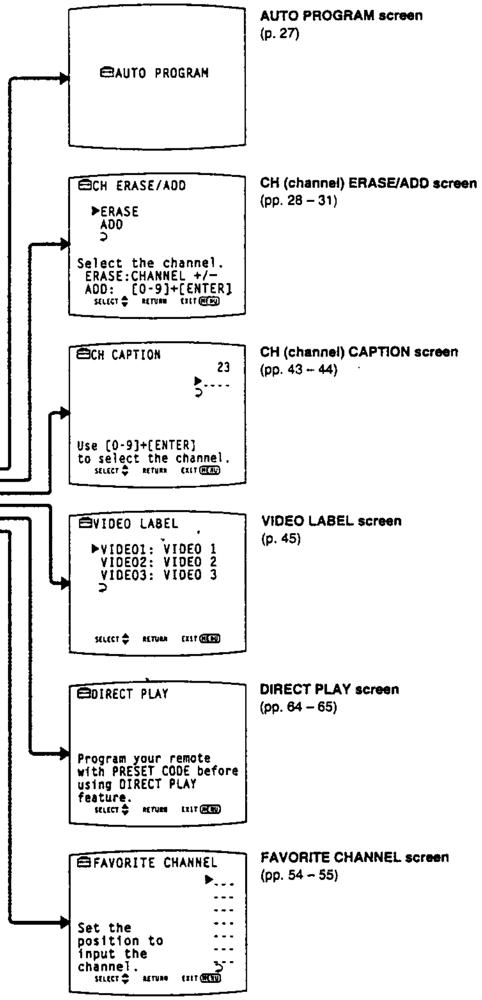


For time-related settings



For presetting and other functions

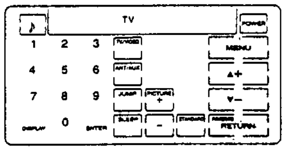




Navigating through the menus

Press the TV button to display the TV operating keys.

Remote Commander LCD touch key display (with TV operating keys displayed)



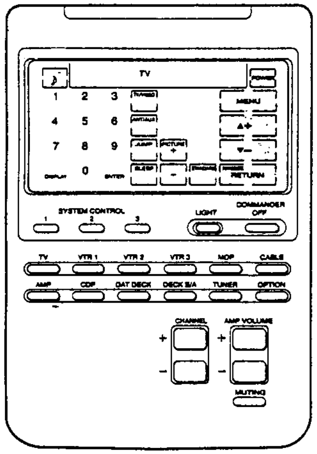
To display the main menu
Touch MENU.

To return to the previous menu
Touch ▲+/▼– until the cursor points to "⊃ MENU." Then touch RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen
Touch MENU.

Remote Commander
(Press the TV button to display the TV operating keys.)



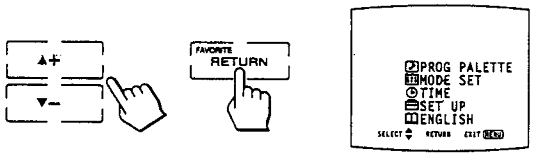
Changing the menu language

The menu language is factory-set to ENGLISH. Follow these instructions to change the menu language to Spanish or French, or back to English.

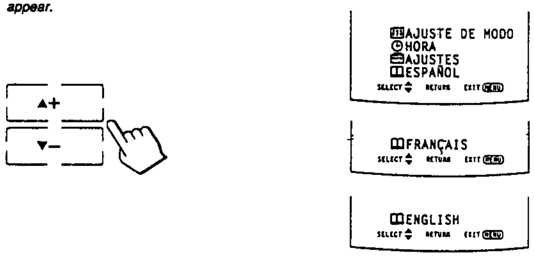
1 Touch POWER to turn on the TV.

2 Touch MENU.
The main menu appears.

3 Touch ▲+/▼– until the cursor points to "ENGLISH."
Then touch RETURN.
The language display turns red.



4 Touch ▲+/▼– to select the language.
Each time you touch ▲+/▼–, the "ESPAÑOL," "FRANÇAIS" and "ENGLISH" menus appear.



Note
Certain parts of the "ESPAÑOL" and "FRANÇAIS" menus remain in English.

5 Touch RETURN.
The language is selected.

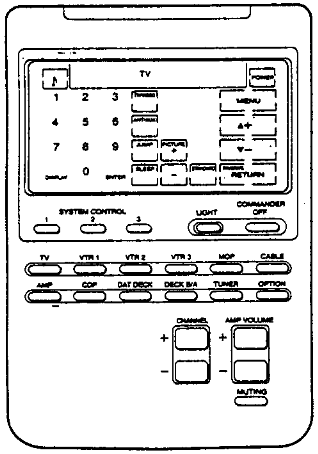
Spanish menu

To return to the normal screen.
Touch MENU.

Note concerning menus
The menus disappear automatically, if you do not press a button or touch a key within 90 seconds.

1-3. SETTING CABLE ON OR OFF

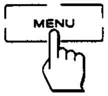
Remote Commander
(Press the TV button to display the TV operating keys.)

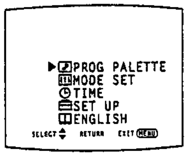


If you have cable connected to the TV, follow the steps below to set the cable connection on or off. Set CABLE OFF to preset or watch VHF or UHF channels, and set CABLE ON to preset or watch cable TV channels.

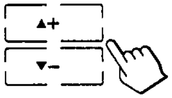
Note
If the TV is in video mode, the "CABLE" display is shaded and cannot be selected. Touch TV/VIDEO to change to TV mode.

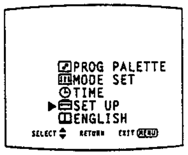
1 Touch MENU.
The main menu appears.



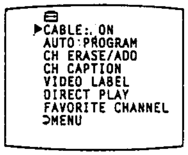


2 Touch ▲+/▼– until the cursor points to "SET UP."

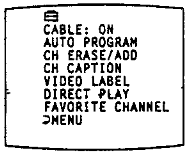




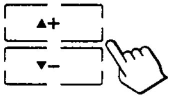
3 Touch RETURN.
The set up menu appears, and the cursor points to "CABLE."

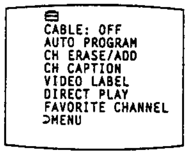


4 Touch RETURN again.
The mode display turns red.

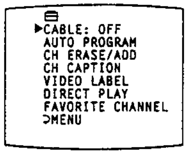


5 Touch ▲+/▼– to select "ON" or "OFF."





6 Touch RETURN.
The setting is complete.



To return to the previous menu
Touch ▲+/▼– until the cursor points to " ⊃ MENU." Then touch RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen.
Touch MENU.

Cable TV channel chart*
Cable TV systems use letters or numbers to designate channels. To tune in a channel, refer to the chart below.

Number on this TV	Corresponding CATV channel
1	A-8
5	A-7
6	A-6
14	A
15	B
16	C
17	D
18	E
19	F
20	G
21	H
22	I
23	J
24	K
25	L
26	M
27	N
28	O
29	P
30	Q
31	R
32	S
33	T
34	U
35	V
36	W
37	W+1
38	W+2
39	W+3
⋮	⋮
93	W+57
94	W+58
95	A–5
96	A–4
97	A–3
98	A–2
99	A–1
100	W+59
101	W+60
102	W+61
⋮	⋮
123	W+82
124	W+83
125	W+84

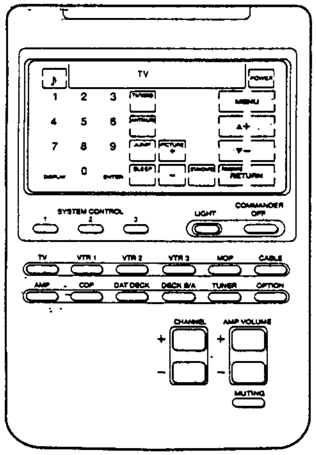
Check with your local cable TV company for more complete information on the available channels.

- * The designation of the cable TV channels conforms to the EIA/NCTA recommendation.

1-4. PRESETTING TV CHANNELS

By presetting TV channels to the TV, you can select channels by pressing CHANNEL +/–.
(You can select VHF channel 2 – 13 without presetting.)

Remote Commander
(Press the TV button to display the TV operating keys.)



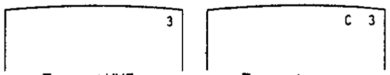
Presetting all receivable channels automatically

Follow these instructions to preset all the receivable VHF, UHF or cable TV channels to the TV.

Notes

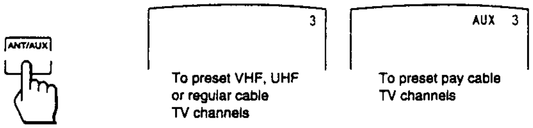
- If the TV is in video mode, the "AUTO PROGRAM" display is shaded and cannot be selected. Touch TV/VIDEO to change to TV mode.
- Perform auto programming during the day rather than late at night, when some channels may not be broadcasting.

1 Set the cable connection on or off (pp. 22 – 23) to select the type of channel you want to preset, VHF/UHF or cable TV.



To preset VHF or UHF channels | To preset cable TV channels

Touch ANT/AUX to select the type of channel you want to preset, VHF/UHF/regular cable TV, or pay cable TV connected to the AUX (auxiliary) terminal.



To preset VHF, UHF or regular cable TV channels | To preset pay cable TV channels

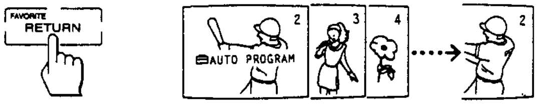
2 Touch MENU.
The main menu appears.

3 Touch ▲+/▼– until the cursor points to "SET UP."

4 Touch RETURN.
The set up menu appears.

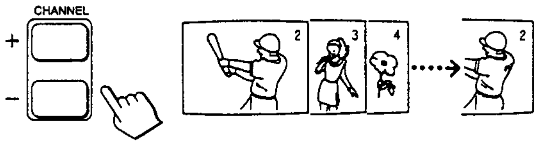
5 Touch ▲+/▼– until the cursor points to "AUTO PROGRAM."

6 Touch RETURN.



"AUTO PROGRAM" appears on the screen and receivable channels (other than the channels already preset) are preset in numerical sequence. The channels previously preset will not remain in the TV's memory.
When no more channels are found, auto programming stops and the screen returns automatically to the set up menu.

7 Press CHANNEL +/– to check or view the preset channels.



Receivable channels for this TV
VHF: 2 – 13
UHF: 14 – 69
Cable: 1 – 125

To select TV channels without presetting
Touch the 0 – 9 keys and ENTER.

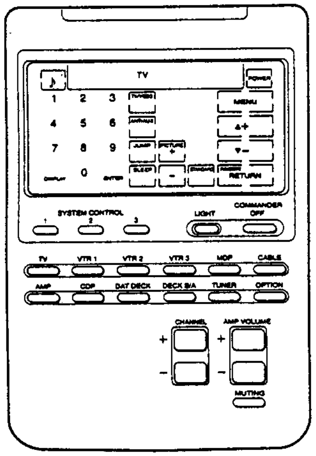
To return to the previous menu
Touch ▲+/▼– until the cursor points to "⊃ MENU."
Then touch RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen.
Touch MENU.

— 11 —

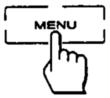
Remote Commander
(Press the TV button to display the TV operating keys.)



Erasing TV channels

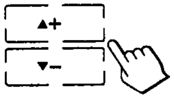
Follow these instructions to erase unnecessary TV channels, so that when you press CHANNEL +/–, the channel(s) are skipped.

1 Touch MENU.
The main menu appears.




```
▶PROG PALETTE
 MODE SET
 TIME
 SET UP
 ENGLISH
SELECT  RETURN  EXIT MENU
```

2 Touch ▲+/▼– until the cursor points to "SET UP."

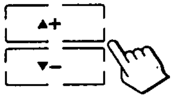



```
 PROG PALETTE
 MODE SET
 TIME
▶SET UP
 ENGLISH
SELECT  RETURN  EXIT MENU
```

3 Touch RETURN.
The set up menu appears.

```
▶CABLE: ON
 AUTO PROGRAM
 CH ERASE/ADD
 CH CAPTION
 VIDEO LABEL
 DIRECT PLAY
 FAVORITE CHANNEL
 ⊃MENU
```

4 Touch ▲+/▼– until the cursor points to "CH ERASE/ADD."

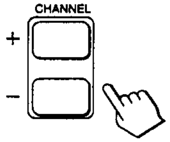



```
 CABLE: ON
 AUTO PROGRAM
▶CH ERASE/ADD
 CH CAPTION
 VIDEO LABEL
 DIRECT PLAY
 FAVORITE CHANNEL
 ⊃MENU
```

5 Touch RETURN.
The CH ERASE/ADD screen appears, and the cursor points to "ERASE."

```
CH ERASE/ADD
 ▶ERASE
  ADD
  ⊃
Select the channel.
 ERASE:CHANNEL +/-
 ADD:  [0-9]+[ENTER]
SELECT  RETURN  EXIT MENU
```

6 Press CHANNEL +/– to select the channel you want to erase.
The channel display appears.




```
CH ERASE/ADD
                    8
 ▶ERASE
  ADD
  ⊃
Select the channel.
 ERASE:CHANNEL +/-
 ADD:  [0-9]+[ENTER]
SELECT  RETURN  EXIT MENU
```

7 Touch RETURN.
A "–" sign appears in front of the channel number display, indicating that the channel is erased; then the CH ERASE/ADD screen automatically reappears.

```
CH ERASE/ADD
                  - 8
 ▶ERASE
  ADD
  ⊃
Select the channel.
 ERASE:CHANNEL +/-
 ADD:  [0-9]+[ENTER]
SELECT  RETURN  EXIT MENU
```

To erase another channel
Repeat steps 6 – 7.

To return to the previous menu
Touch ▲+/▼– until the cursor points to "⊃ MENU."
Then touch RETURN.

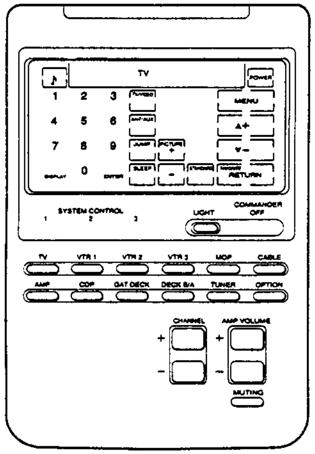
To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen
Touch MENU.

Note
If you erase a VHF or UHF channel, the same number cable TV channel is also erased (and vice versa).

Presetting TV Channels

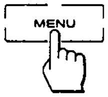
Remote Commander
(Press the TV button to display the TV operating keys.)



Adding TV channels

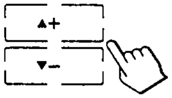
Follow these instructions to add TV channels one by one to the selection memory, or to replace a TV channel you previously erased (pp. 26 – 27).

1 Touch MENU.
The main menu appears.




```
▶PROG PALETTE
 MODE SET
 TIME
 SET UP
 ENGLISH
SELECT  RETURN  EXIT MENU
```

2 Touch ▲+/▼– until the cursor points to "SET UP."

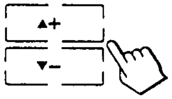



```
 PROG PALETTE
 MODE SET
 TIME
▶SET UP
 ENGLISH
SELECT  RETURN  EXIT MENU
```

3 Touch RETURN.
The set up menu appears.

```
▶CABLE: ON
 AUTO PROGRAM
 CH ERASE/ADD
 CH CAPTION
 VIDEO LABEL
 DIRECT PLAY
 FAVORITE CHANNEL
 ⊃MENU
```

4 Touch ▲+/▼– until the cursor points to "CH ERASE/ADD."

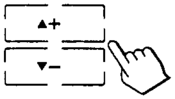



```
 CABLE: ON
 AUTO PROGRAM
▶CH ERASE/ADD
 CH CAPTION
 VIDEO LABEL
 DIRECT PLAY
 FAVORITE CHANNEL
 ⊃MENU
```

5 Touch RETURN.
The CH ERASE/ADD screen appears.

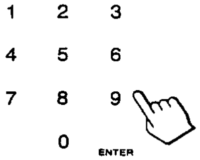
```
CH ERASE/ADD
 ▶ERASE
  ADD
  ⊃
Select the channel.
 ERASE:CHANNEL +/-
 ADD:  [0-9]+[ENTER]
SELECT  RETURN  EXIT MENU
```

6 Touch ▲+/▼– down until the cursor points to "ADD."




```
CH ERASE/ADD
  ERASE
 ▶ADD
  ⊃
Select the channel.
 ERASE:CHANNEL +/-
 ADD:  [0-9]+[ENTER]
SELECT  RETURN  EXIT MENU
```

7 Touch 0 – 9 and ENTER on the Remote Commander to select the channel you want to add.
The channel display appears.




```
CH ERASE/ADD
                 10
  ERASE
 ▶ADD
  ⊃
Select the channel.
 ERASE:CHANNEL +/-
 ADD:  [0-9]+[ENTER]
SELECT  RETURN  EXIT MENU
```

8 Touch RETURN.
A "+" sign appears in front of the channel number display, indicating that the channel is added; then the CH ERASE/ADD screen automatically reappears.

```
CH ERASE/ADD
               + 10
  ERASE
 ▶ADD
  ⊃
Select the channel.
 ERASE:CHANNEL +/-
 ADD:  [0-9]+[ENTER]
SELECT  RETURN  EXIT MENU
```

To add another channel
Repeat steps 7 – 8.

To return to the previous menu
Touch ▲+/▼– until the cursor points to "⊃ MENU."
Then touch RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen
Touch MENU.

Note
If you add a VHF or UHF channel, the same number cable TV channel is also added (and vice versa).

Presetting TV Channels

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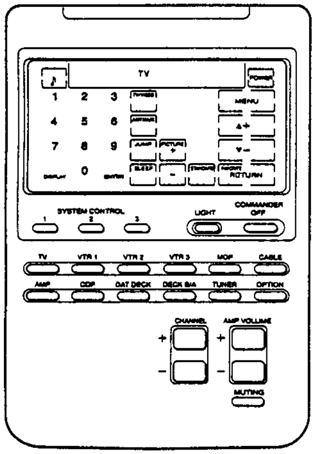
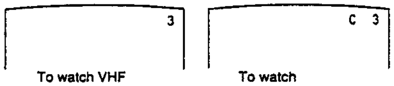
1-5. WATCHING TV PROGRAMS

Remote Commander
(Press the TV button to display the TV operating keys.)



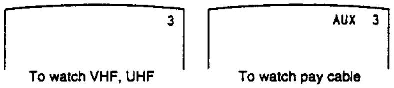
1 Set the cable connection on or off (pp. 22 – 23) to select the type of channel you want to watch, VHF/UHF or cable TV.



To watch VHF or UHF channels.

To watch cable TV channels

Touch ANT/AUX to select the type of channel you want to watch, VHF/UHF/ regular cable TV, or pay cable TV connected to the AUX (auxiliary) terminal.

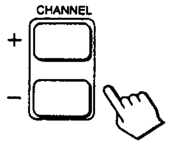


To watch VHF, UHF or regular cable TV channels

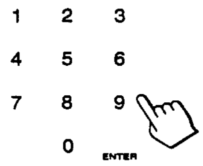
To watch pay cable TV channels

2 Select a channel in one of the following two ways:

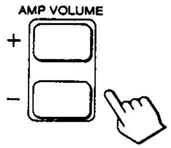
To scan the preset channels in numerical sequence, press CHANNEL +/–.



To select a channel directly, touch 0 – 9 and then ENTER.
For example, to select channel 10, touch 1, 0 and ENTER.



3 Make sure an audio system is connected to the TV (p. 13). Then press AMP VOLUME +/– to adjust the volume.



Press + to increase the volume.
Press – to decrease the volume.

If VIDEO 1, VIDEO 2 or VIDEO 3 appears on the screen
Touch TV/VIDEO to change to TV mode.

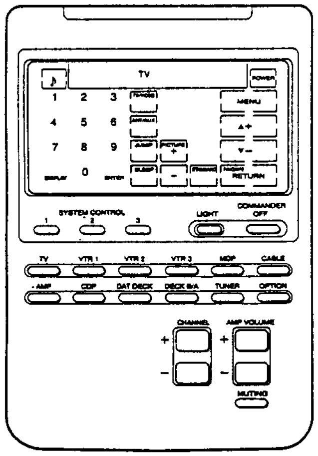
To select channels more easily
Set FAVORITE CHANNEL (pp. 54 – 55).

To turn off the TV
Touch POWER.

1-6. USING CONVENIENT FEATURES

Front of TV

Remote Commander
(Press the TV button to display the TV operating keys.)



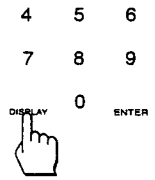
Muting the sound — MUTING

Press MUTING.
"MUTING" appears on the screen.

To restore the sound
Press MUTING again, or press AMP VOLUME +.

Keeping the displays on-screen — DISPLAY

Touch DISPLAY.
All the existing displays appear: channel number, channel caption (if set), MTS mode ("SAP" only), and the current time ("AM" or "PM" disappears after about three seconds).

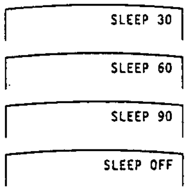


To turn off the displays
Touch DISPLAY again.

Setting the sleep timer — SLEEP

The sleep timer turns off the TV automatically after the amount of time you select.

Touch SLEEP.
Each time you touch SLEEP, the time increments "30," "60," "90" and "OFF" mode appear in sequence.



A red "SLEEP" display appears about one minute before the TV goes off.

To cancel the setting.
Touch SLEEP until OFF mode appears.
A green "SLEEP OFF" display appears for about three seconds.
OR
Turn the TV off.
The sleep timer setting is cancelled.

Switching quickly between two channels — JUMP

Use this function to keep track of two programs alternately.

To recall the channel you were watching previously
Touch JUMP.

To switch back to the first channel
Touch JUMP again.

Note
The JUMP function also changes the mode to ANT (antenna) or AUX (auxiliary), depending on the mode of the channel you were watching previously.

Previewing the features — DEMO

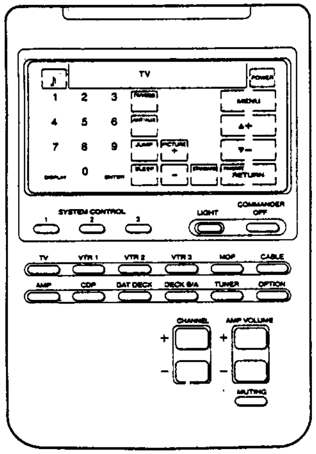
Press DEMO on the TV.
Functions and menus are displayed one by one.

To restart DEMO from the beginning
Press DEMO again.

To stop DEMO
Press any button.

Using Convenient Features

Remote Commander
(Press the TV button to display the TV operating keys.)



— 15 —

Selecting an MTS (Multichannel TV Sound) mode

Follow these instructions to select an MTS mode.

Select MAIN mode to listen to stereo sound.
The STEREO lamp on the TV lights up whenever a stereo broadcast is received.

Select SAP mode to listen to Second Audio Programs.

Select MONO mode to eliminate excessive noise during stereo broadcasts, caused by a weak incoming signal.

Note
If the TV is in video mode, the "MTS" display is shaded and cannot be selected. Touch TV/VIDEO to change to TV mode.

1 Touch MENU.
The main menu appears.

2 Touch ▲+/▼– until the cursor points to "MODE SET."

3 Touch RETURN.
The mode set menu appears.

4 Touch ▲+/▼– until the cursor points to "MTS."

5 Touch RETURN.
The mode display turns red.

6 Touch ▲+/▼– to select the mode you want.
Each time you touch ▲+/▼–, "MAIN," "SAP" and "MONO" appear in sequence.

7 Touch RETURN.
The mode is selected.

To return to the previous menu
Touch ▲+/▼– until the cursor points to " ⊃ MENU." Then touch RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen
Touch MENU.

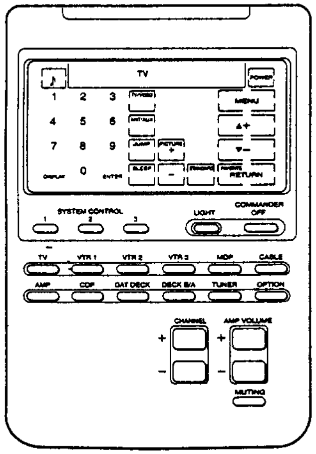
Using Convenient Features

1-7. SELECTING A PICTURE MODE

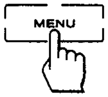
This TV features four modes (STANDARD, MOVIE, SPORTS, NEWS) that offer different picture qualities. Choose the one that best suits the type of program that you want to watch.

Example: Select MOVIE mode for a picture that lets you view a long movie feature without tiring your eyes.

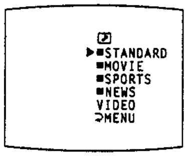
Remote Commander
(Press the TV button to display the TV operating keys.)



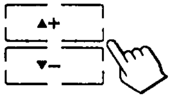
1 Touch MENU.
The main menu appears, and the cursor points to "PROG PALETTE."

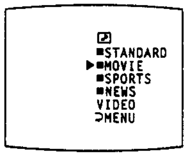


2 Touch RETURN.
The program palette menu appears.

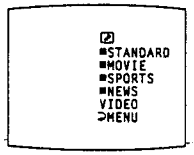


3 Touch ▲+/▼– until the cursor points to "MOVIE."





4 Touch RETURN.
The "MOVIE" display turns green, indicating that MOVIE mode is selected.



To select a different mode
Repeat steps 3 – 4.

Selecting standard mode (without using the menus)

Follow these instructions to select standard mode without using the on-screen menus.

Touch STANDARD.

When you select STANDARD mode
You receive standard picture quality. Any video adjustments you made ("Adjusting the Picture" pp. 38 – 41) are cancelled and the original factory settings are restored.

When you select MOVIE mode
You receive finely detailed picture quality.
To further adjust picture qualities, follow the instructions on pp. 38 – 41.

When you select SPORTS mode
You receive a vivid, bright picture, with an exciting sports stadium effect.
To further adjust picture qualities, follow the instructions on pp. 38 – 41.

When you select NEWS mode
You receive a clear picture, with any original picture noise reduced.
To further adjust picture qualities, follow the instructions on pp. 38 – 41.

To return to the previous menu
Touch ▲+/▼– until the cursor points to "⊃ MENU."
Then touch RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen.
Touch MENU.

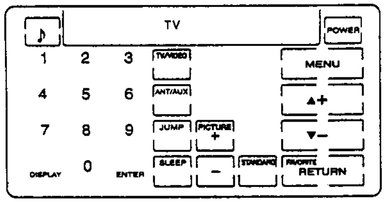
1-8. ADJUSTING THE PICTURE

You can adjust the picture for each input mode (TV, VIDEO 1, VIDEO 2, VIDEO 3) by pressing TV/VIDEO on the TV or by touching TV/VIDEO in the TV operating key display on the Remote Commander to select the input mode, before making the adjustments. These adjustments are retained in memory even when you turn off the TV, but are cancelled after you change the adjustments, or select a picture mode (pp. 36 – 37).

Adjusting picture quality

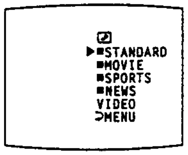
Follow these instructions to adjust PICTURE, HUE, COLOR, BRIGHT (brightness) and SHARP (sharpness).

Remote Commander LCD touch key display
(Press the TV button to display the TV operating keys.)



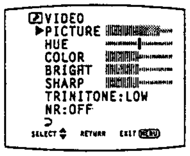
1 Touch MENU.
The main menu appears, and the cursor points to "PROG PALETTE."

2 Touch RETURN.
The program palette menu appears.



3 Touch ▲+/▼− until the cursor points to "VIDEO."

4 Touch RETURN.
The VIDEO screen appears.



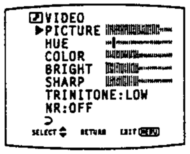
5 Touch ▲+/▼− until the cursor points to the item you want to adjust.

6 Touch RETURN.
The adjustment screen appears.

7 Touch ▲+/▼− to make the adjustment.

Picture quality	Touch ▼−	Touch ▲+
PICTURE	For decreased picture contrast with soft color	For increased picture with vivid color
HUE	Skin tones become purplish	Skin tones become greenish
COLOR	For less color intensity	For more color intensity
BRIGHT	For less brightness	For more brightness
SHARP	For less sharpness	For more sharpness

8 Touch RETURN.
The adjustment is complete, and the VIDEO screen automatically reappears.



To adjust other items
Repeat steps 5 – 8.

To restore the factory settings for all the items
Select "STANDARD" on the program palette menu, and touch RETURN;
or, touch STANDARD.
All the items, including TRINITONE (p. 40) and NR (p. 41) return to their original factory settings.

To adjust picture contrast
You can also adjust picture contrast with the PICTURE +/– keys on the Remote Commander.

Touch + to increase picture contrast with vivid color.
Touch – to decrease picture contrast with soft color.
The picture adjustment screen appears.

To return to the previous menu
Touch ▲+/▼− until the cursor points to " ⊃ MENU."
Then touch RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen
Touch MENU.

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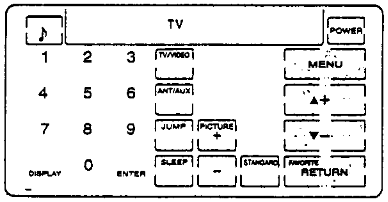
Adjusting the Picture

Setting the TRINITONE mode

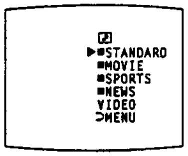
Color picture tubes are usually manufactured with a fixed color temperature (tint) that determines the "warmth" (red tint) or "coolness" (blue tint) of the picture. Use the Sony Trinitone feature to adjust the picture color to your preference.

Remote Commander LCD touch key display
(Press the TV button to display the TV operating keys.)



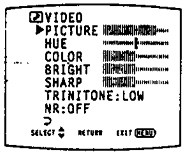
1 Touch MENU.
The main menu appears, and the cursor points to "PROG PALETTE."

2 Touch RETURN.
The program palette menu appears.



3 Touch ▲+/▼– until the cursor points to "VIDEO."

4 Touch RETURN.
The VIDEO screen appears.



5 Touch ▲+/▼– until the cursor points to "TRINITONE."

6 Touch RETURN.
The mode display turns red.

7 Touch ▲+/▼– to select "HIGH" or "LOW."

Select "HIGH" to make the picture cool (bluish).
Select "LOW" to make the picture warm (reddish).

8 Touch RETURN.
The setting is complete.

To return to the previous menu
Touch ▲+/▼– until the cursor points to "⊃ MENU."
Then touch RETURN.

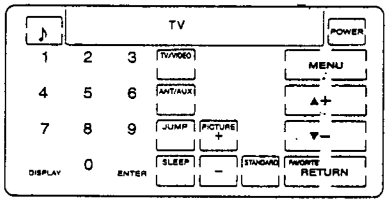
To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen
Touch MENU.

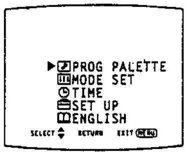
Setting NR (picture noise reduction) ON or OFF

Follow these instructions to reduce picture noise.

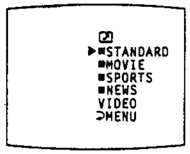
Remote Commander LCD touch key display
(Press the TV button to display the TV operating keys.)



1 Touch MENU.
The main menu appears, and the cursor points to "PROG PALETTE."

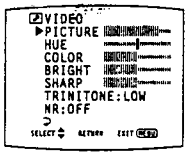


2 Touch RETURN.
The program palette menu appears.

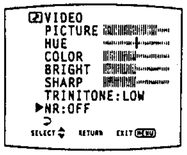


3 Touch ▲+/▼– until the cursor points to "VIDEO."

4 Touch RETURN.
The VIDEO screen appears.



5 Touch ▲+/▼– until the cursor points to "NR."



6 Touch RETURN.
The mode display turns red.

7 Touch ▲+/▼– to select "ON" or "OFF."

Select "ON" to reduce picture noise.
Select "OFF" to restore the normal picture.

8 Touch RETURN.
The setting is complete.

To return to the previous menu
Touch ▲+/▼– until the cursor points to "⊃ MENU."
Then touch RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

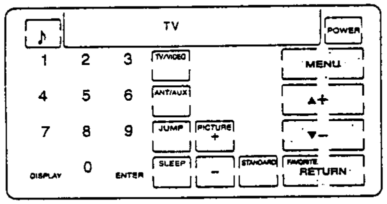
To return to the normal screen
Touch MENU.

1-9. CUSTOMIZING THE SCREEN DISPLAY

Setting S-VIDEO ON or OFF

Follow these instructions to set S-VIDEO on or off, depending on the kind of video equipment you have connected to the TV. For instructions on connecting video equipment, see pp. 14 – 17.

Remote Commander LCD touch key display
(Press the TV button to display the TV operating keys.)



1 Touch MENU.
The main menu appears.

```
▶PROG PALETTE
 MODE SET
 TIME
 SET UP
 ENGLISH
SELECT  RETURN  EXIT MENU
```

2 Touch ▲+/▼– until the cursor points to "MODE SET."

3 Touch RETURN.
The mode set menu appears, with the cursor pointing to "S-VIDEO."

```
▶S-VIDEO   :OFF
 MTS       :MAIN
 ⊃MENU
```

4 Touch RETURN.
The mode display turns red.

5 Touch ▲+/▼– to select "ON" or "OFF."

6 Touch RETURN.
The setting is complete.

To return to the previous menu
Touch ▲+/▼– until the cursor points to " ⊃ MENU."
Then touch RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

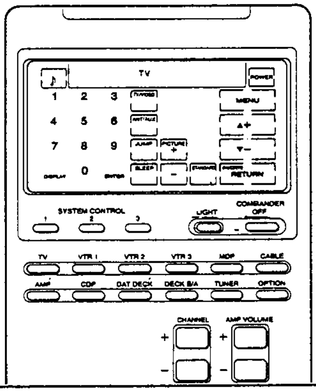
To return to the normal screen
Touch MENU.

Setting channel captions — CH CAPTION

Follow these instructions to caption each channel number display with a name, for instance, the television station call letters. (You can set up to four letters or numbers).

Example: Caption channel 15 as "NBC."

Remote Commander
(Press the TV button to display the TV operating keys.)



1 Touch MENU.
The main menu appears.

```
▶PROG PALETTE
 MODE SET
 TIME
 SET UP
 ENGLISH
SELECT  RETURN  EXIT MENU
```

2 Touch ▲+/▼– until the cursor points to "SET UP."

3 Touch RETURN.
The set up menu appears.

```
▶CABLE: ON
 AUTO PROGRAM
 CH ERASE/ADD
 CH CAPTION
 VIDEO LABEL
 DIRECT PLAY
 FAVORITE CHANNEL
 ⊃MENU
```

4 Touch ▲+/▼– until the cursor points to "CH CAPTION."

5 Touch RETURN.
The CH CAPTION screen appears.

```
CH CAPTION
              23
            ▶----
            ⊃
Use [0-9]+[ENTER]
to select the channel.
SELECT  RETURN  EXIT MENU
```

6 Press CHANNEL +/–, or touch 1, 5 and ENTER to set channel "15."

```
CH CAPTION
              15
            ▶----
            ⊃
Use [0-9]+[ENTER]
to select the channel.
SELECT  RETURN  EXIT MENU
```

7 Touch RETURN.
The first caption space turns red.

8 Touch ▲+/▼– to select "N."
Each time you touch ▲+/▼–, "0" – "9," "A" – "Z," "&," "/," "-" and "_" (blank space) appear in sequence.

```
CH CAPTION
              15
             N---
             ⊃
Select the 1st letter.

SELECT  RETURN  EXIT MENU
```

9 Touch RETURN.
The second caption space turns red.

(Continued)

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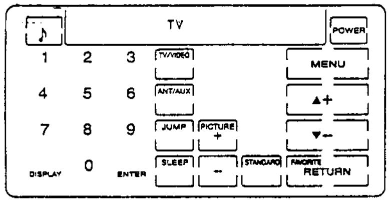
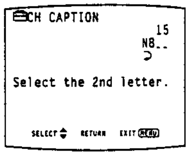
Setting channel captions – CH CAPTION
(Cont'd. from prev. page)

Remote Commander LCD touch key display
(Press the TV button to display the TV operating keys.)

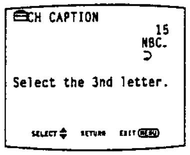


10 Touch ▲+/▼– to select "B."



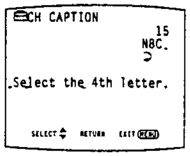
11 Touch RETURN.
The third caption space turns red.

12 Touch ▲+/▼– to select "C."



13 Touch RETURN.
The fourth caption space turns red.

14 Touch ▲+/▼– to select a blank space.



15 Touch RETURN.
The setting is complete.
When you select or display the channel number, the channel caption also appears.

To caption more channels
Repeat steps 6 – 15.

To erase unnecessary captions
Display the CH CAPTION screen, select the channel with the caption you want to erase, and select blank spaces for the channel caption; then touch RETURN.
The caption for that channel is erased.

To return to the previous menu
Touch ▲+/▼– until the cursor points to " ⊃ MENU."
Then touch RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen
Touch MENU.

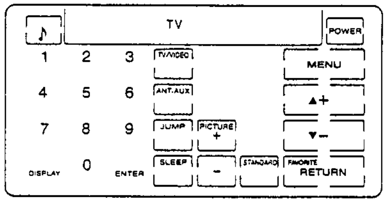
Note
You can set up to 32 channel captions. If the memory is full, "The memory is full, sorry" appears on the screen. Erase any unnecessary captions, and begin again.

Setting VIDEO LABEL

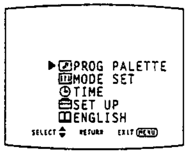
Follow these instructions to label each input mode, in order to identify the equipment connected to each input terminal.

Example: Label VIDEO 1 IN as "VHS."

Remote Commander LCD touch key display
(Press the TV button to display the TV operating keys.)

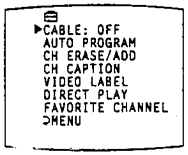


1 Touch MENU.
The main menu appears.



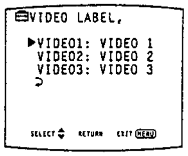
2 Touch ▲+/▼– until the cursor points to "SET UP."

3 Touch RETURN.
The set up menu appears.



4 Touch ▲+/▼– until the cursor points to "VIDEO LABEL."

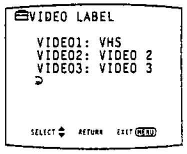
5 Touch RETURN.
The VIDEO LABEL screen appears.



6 Touch ▲+/▼– until the cursor points to the input mode you want to label. (In this case, the cursor is already pointing to "VIDEO 1.")

7 Touch RETURN.
The label display turns red.

8 Touch ▲+/▼– to select "VHS."



Each time you touch ▲+/▼–, the label changes:

VIDEO 1 → BETA → 8mm → VHS → LD → S-VIDEO ↩

9 Touch RETURN.
The setting is complete.
When you select or display the video mode, the video label appears.

To label other input modes
Repeat steps 6 – 9.

To change a label
Same as above.

To return to the previous menu
Touch ▲+/▼– until the cursor points to " ⊃ MENU." Then touch RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen
Touch MENU.

1-10. USING TIMER-ACTIVATED FUNCTIONS

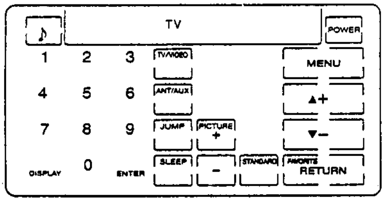
Setting DAYLIGHT SAVING

If you live in an area that uses daylight savings time, set DAYLIGHT SAVING to "YES" or "NO" depending on the season, before setting the current time. At the next daylight savings date, you will be able to automatically adjust all the time-related settings (CURRENT TIME, ON/OFF TIMER and CHANNEL BLOCK) simply by changing the DAYLIGHT SAVING setting.

When setting DAYLIGHT SAVING:

- **After the first Sunday in April (spring daylight savings)**
  Set to "YES" before setting the current time.
  Then, on the last Sunday in October (fall daylight savings), set to "NO."
  All the time-related settings automatically move one hour back.
- **After the last Sunday in October (fall daylight savings)**
  Set to "NO" before setting the current time.
  Then, on the first Sunday in April (spring daylight savings), set to "YES."
  All the time-related settings automatically move one hour ahead.

Remote Commander LCD touch key display
(Press the TV button to display the TV operating keys.)



Follow these instructions to set DAYLIGHT SAVING to "YES" or "NO."

1 Touch MENU.
The main menu appears.

```
▶PROG PALETTE
 MODE SET
 TIME
 SET UP
 ENGLISH
SELECT  RETURN  EXIT
```

2 Touch ▲+/▼– until the cursor points to "TIME."

3 Touch RETURN.
The time menu appears.

```
▶CURRENT TIME SET
 ON/OFF TIMER
 CHANNEL BLOCK
 DAYLIGHT SAVING:NO
 MENU
```

4 Touch ▲+/▼– until the cursor points to "DAYLIGHT SAVING."

5 Touch RETURN.
The mode display turns red.

6 Touch ▲+/▼– to select "YES" or "NO."
The setting is complete.

7 Touch RETURN.

To return to the previous menu
Touch ▲+/▼– until the cursor points to " ⊃ MENU."
Then touch RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

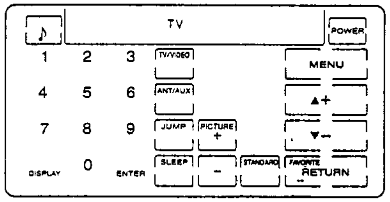
To return to the normal screen.
Touch MENU.

Setting the clock — CURRENT TIME SET

Follow these instructions to set the current time. The correct current time must be set in order to use the other time-related functions (DAYLIGHT SAVING, ON/OFF TIMER, CHANNEL BLOCK).

Example: Set the time to 3:15 PM, Monday.

Remote Commander LCD touch key display
(Press the TV button to display the TV operating keys.)



1 Touch MENU.
The main menu appears.

```
▶PROG PALETTE
 MODE SET
 TIME
 SET UP
 ENGLISH
SELECT  RETURN  EXIT
```

2 Touch ▲+/▼– until the cursor points to "TIME."

3 Touch RETURN.
The time menu appears, and the cursor points to "CURRENT TIME SET."

```
▶CURRENT TIME SET
 ON/OFF TIMER
 CHANNEL BLOCK
 DAYLIGHT SAVING:NO
 MENU
```

4 Touch RETURN again.
The CURRENT TIME SET screen appears, with a reminder to set DAYLIGHT SAVING.

```
CURRENT TIME SET
▶--- --:-- AM
 DAYLIGHT SAVING

 Set DAYLIGHT SAVING
 first if needed.
SELECT  RETURN  EXIT
```

If you do not need to set DAYLIGHT SAVING, touch RETURN and continue from step 5.

To set daylight saving

a Touch ▲+/▼– until the cursor points to "DAYLIGHT SAVING."

b Touch RETURN.
The time menu appears, and the cursor points to "DAYLIGHT SAVING."

c Touch RETURN.

d Touch ▲+/▼– to select "YES" or "NO."

e Touch RETURN.
The setting is complete.

To set the time
Touch ▲+/▼– until the cursor points to "CURRENT TIME SET"; touch RETURN, then continue from step 5.

5 Touch RETURN.
The CURRENT TIME SET screen appears, and the "SUN" display appears (red).

6 Touch ▲+/▼– to select "MON."
Each time you touch ▲+/▼–, the day changes consecutively.

```
CURRENT TIME SET
 MON 12:00 AM
 START

 Select today's day.
SELECT  RETURN  EXIT
```

(Continued)

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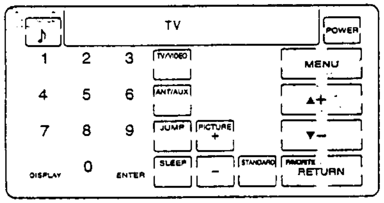
Setting the clock — CURRENT TIME SET
(Cont'd. from prev. page)

Remote Commander LCD touch key display
(Press the TV button to display the TV operating keys.)



7 Touch RETURN.
The hour and am/pm displays turn red.

8 Touch ▲+/▼– to set "3:00PM."
Each time you touch ▲+/▼–, the hour changes in sequence beginning with "12:00AM."

```
CURRENT TIME SET

MON  3:00 PM
START
⊃

Set the time.
```

9 Touch RETURN.
The minute display turns red.

10 Touch ▲+/▼– to select "15" (minutes).
Each time you touch ▲+/▼–, the minutes change in sequence.

```
CURRENT TIME SET

MON  3:15 PM
START
⊃

Set the time.
```

11 Touch RETURN.
The cursor points to "START."

12 Check the actual time, and touch RETURN to start the clock.
The setting is complete.

To reset the time
Display the CURRENT TIME SET screen and repeat steps 5 – 12.

To display the current time
Press DISPLAY.

To return to the previous menu
Touch ▲+/▼– until the cursor points to " ⊃ MENU."
Then touch RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

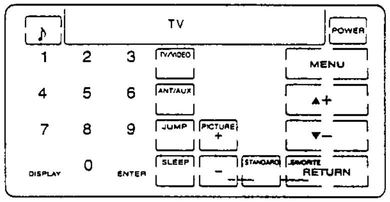
To return to the normal screen.
Touch MENU.

Setting the ON/OFF TIMER

Follow these instructions to make the program of your choice appear on the screen at a specified time.

Example: Set the timer to turn on the TV every Monday through Friday at 1:30 AM for 3 hours, on channel 8, as PROGRAM 1. (You can set up to three programs.)

Remote Commander LCD touch key display
(Press the TV button to display the TV operating keys.)



1 Touch MENU.
The main menu appears.

```
▶PROG PALETTE
 MODE SET
 TIME
 SET UP
 ENGLISH
```

2 Touch ▲+/▼– until the cursor points to "TIME."

3 Touch RETURN.
The time menu appears.

```
▶CURRENT TIME SET
 ON/OFF TIMER
 CHANNEL BLOCK
 DAYLIGHT SAVING:NO
 ⊃MENU
```

4 Touch ▲+/▼– until the cursor points to "ON/OFF TIMER."

5 Touch RETURN.
The ON/OFF TIMER screen appears, and the cursor points to "1."

```
ON/OFF TIMER
▶1.------
   --:--AM  H CH___
 2.------
   --:--AM  H CH___
 3.------
   --:--AM  H CH___
 ⊃
Select a program.
```

6 To set program 1, touch RETURN.
(To set program 2 or 3, touch ▲+/▼– until the cursor points to that program; then touch RETURN.)
The day input space turns red.

7 Touch ▲+/▼– to select "EVERY MON-FRI"; then touch RETURN.
Each time you touch ▲+, the days of the week change as shown in Fig. 1 (p. 51).

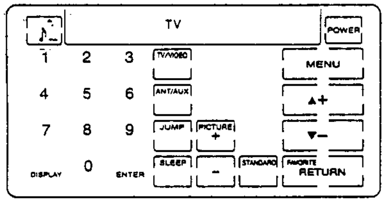
```
ON/OFF TIMER
 1.EVERY MON-FRI
   --:--AM  H CH___
 2.------
   --:--AM  H CH___
 3.------
   --:--AM  H CH___
 ⊃
Set the time.
```

8 Touch ▲+/▼– to select "1:00AM"; then touch RETURN.
Each time you touch ▲+/▼–, the hour changes in sequence.

```
ON/OFF TIMER
 1.EVERY MON-FRI
    1:00AM  H CH___
 2.------
   --:--AM  H CH___
 3.------
   --:--AM  H CH___
 ⊃
Set the time.
```

(Continued)

Remote Commander LCD touch key display
(Press the TV button to display the TV operating keys.)



9 Touch ▲+/▼– to select "30" (minutes); Then touch RETURN.
Each time you touch ▲+/▼, the minutes change in sequence.

```
ON/OFF TIMER
 1.EVERY MON-FRI
    1:30AM _H CH___
 2.------
   --:--AM _H CH___
 3.------
   --:--AM _H CH___
 ⊃
Set the duration.
SELECT⇕ RETURN EXIT MENU
```

10 Touch ▲+/▼– to select "3" (hour duration); then touch RETURN.
Each time you touch ▲+/▼, the duration changes from "1" – "6" in sequence.

```
ON/OFF TIMER
 1.EVERY MON-FRI
    1:30AM 3H CH___
 2.------
   --:--AM _H CH___
 3.------
   --:--AM _H CH___
 ⊃
Set the channel.
SELECT⇕ RETURN EXIT MENU
```

11 Touch ▲+/▼– to select "8" (channel); then touch RETURN.
The TIMER indicator lights, indicating that the setting is complete.
Each time you touch ▲+/▼, the channel number changes from 1 – 125 in sequence.

```
ON/OFF TIMER
 1.EVERY MON-FRI
    1:30AM 3H CH  8
▶2.------
   --:--AM _H CH___
 3.------
   --:--AM _H CH___
 ⊃
Select a program.
SELECT⇕ RETURN EXIT MENU
```

The display "TIMER WILL BE OFF" appears on the screen one minute before the timer duration ends.

To set program 2 or 3.
Touch RETURN and repeat steps 6 – 11.

To erase an ON/OFF TIMER setting
Display the ON/OFF TIMER screen, select the setting you want to erase, and select the underlined spaces for the day setting.
The ON/OFF TIMER setting is erased.

To enter a new ON/OFF TIMER setting
Display the ON/OFF TIMER screen and repeat steps 6 – 11.

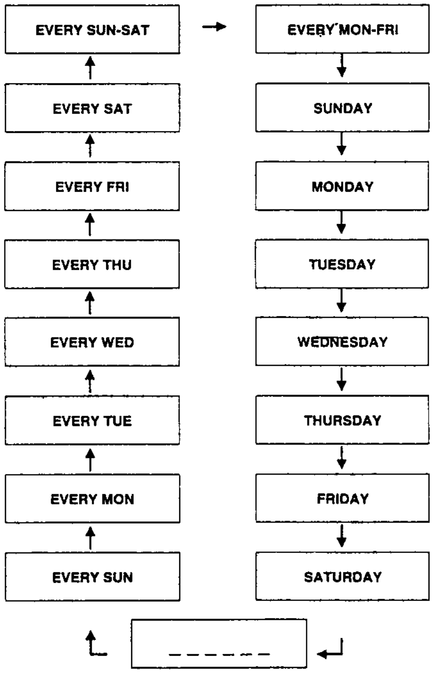
To return to the previous menu
Touch ▲+/▼– until the cursor points to " ⊃ MENU."
Then touch RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen.
Touch MENU.

Note
If you unplug the TV or a power failure occurs, both the clock and timer settings will be erased. Reset the current time; then set the timer.

Fig. 1
Selecting the day(s) of the week
When you touch ▲+, the days of the week appear in the following order:

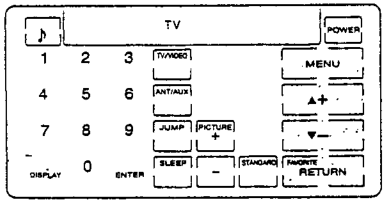


Setting CHANNEL BLOCK

Follow these instructions to prevent a channel from appearing on the screen during the time that you specify. You can use this function to prevent children from watching unsuitable programs.

Example: Set CHANNEL BLOCK every Saturday at 4:30 PM for 1 hour, on Channel 12.

Remote Commander LCD touch key display
(Press the TV button to display the TV operating keys.)



Note
If you have not set the current time, the "CHANNEL BLOCK" display is shaded and cannot be selected.

1 Touch MENU.
The main menu appears.

```
▶PROG PALETTE
 MODE SET
 TIME
 SET UP
 ENGLISH
SELECT  RETURN  EXIT MENU
```

2 Touch ▲+/▼– until the cursor points to "TIME."

3 Touch RETURN.
The time menu appears.

```
▶CURRENT TIME SET
 ON/OFF TIMER
 CHANNEL BLOCK
 DAYLIGHT SAVING:NO
 ⊃MENU
```

4 Touch ▲+/▼– until the cursor points to "CHANNEL BLOCK."

5 Touch RETURN.
The CHANNEL BLOCK screen appears, and the cursor points to the day input space.

```
CHANNEL BLOCK
▶------
 --:--AM .H CH...
 ⊃
SELECT  RETURN  EXIT MENU
```

6 Touch RETURN.
The day input space turns red.

```
CHANNEL BLOCK
 ------
 --:--AM .H CH...
 ⊃
 Set the day.
SELECT  RETURN  EXIT MENU
```

7 Touch ▲+/▼– to select "EVERY SAT"; then touch RETURN.
Each time you touch ▲+/▼, the days of the week change as shown in Fig. 1 (p. 51).

```
CHANNEL BLOCK
 EVERY SAT
 12:00AM .H CH...
 ⊃
 Set the time.
SELECT  RETURN  EXIT MENU
```

8 Touch ▲+/▼– to select "4:00PM"; then touch RETURN.
Each time you touch ▲+/▼, the hour changes in sequence.

```
CHANNEL BLOCK
 EVERY SAT
  4:00PM .H CH...
 ⊃
 Set the time.
SELECT  RETURN  EXIT MENU
```

9 Touch ▲+/▼– to select ":30" (minutes); then touch RETURN.
Each time you touch ▲+/▼, the minutes change in sequence.

```
CHANNEL BLOCK
 EVERY SAT
  4:30PM .H CH...
 ⊃
 Set the duration.
SELECT  RETURN  EXIT MENU
```

10 Touch ▲+/▼– to select "1" (hour duration); then touch RETURN.
Each time you touch ▲+/▼, the duration changes from "1" – "6" in sequence.

```
CHANNEL BLOCK
 EVERY SAT
  4:30PM 1H CH...
 ⊃
 Set the channel.
SELECT  RETURN  EXIT MENU
```

11 Touch ▲+/▼– to select "12" (channel); then touch RETURN.
The setting is complete.
Each time you touch ▲+/▼, the channel number changes from "1" – "125" in sequence.

```
CHANNEL BLOCK
▶EVERY SAT
  4:30PM 1H CH 12
 ⊃
SELECT  RETURN  EXIT MENU
```

At the specified time, "BLOCKED" appears in red on the screen, and the picture of the specified channel is blocked and the sound is muted.

```
BLOCKED
```

To erase a CHANNEL BLOCK setting
Display the CHANNEL BLOCK screen and select the underlined spaces for the day setting.
The CHANNEL BLOCK setting is erased.

To enter a new CHANNEL BLOCK setting
Display the CHANNEL BLOCK screen and repeat steps 4 – 10. (You can only set one CHANNEL BLOCK at a time.)

To return to the previous menu
Touch ▲+/▼– until the cursor points to "⊃ MENU." Then touch RETURN.

To return to the main menu
Repeat the above, until you reach the main menu.

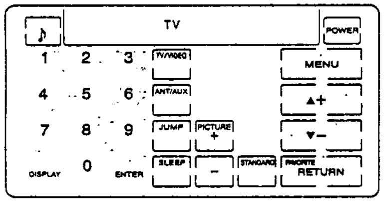
To return to the normal screen.
Touch MENU.

Note
If the ON/OFF TIMER is set for an overlapping time (pp. 49 – 51), the later time setting takes precedence. For example, if CHANNEL BLOCK is set for 2:00 PM and ON/OFF TIMER is set for 3:00 PM, ON/OFF TIMER will take effect at 3:00 PM.

1-11. SETTING FAVORITE CHANNEL

By setting FAVORITE CHANNEL, you can select the channels you use most frequently (up to seven channels) simply by touching FAVORITE (same as the RETURN key) on the Remote Commander.

Remote Commander LCD touch key display
(Press the TV button to display the TV operating keys.)

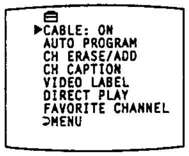


Follow these instructions to set the channels.

1 Touch MENU.
The main menu appears.

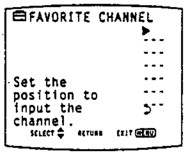
2 Touch ▲+/▼– until the cursor points to "SET UP."

3 Touch RETURN.
The set up menu appears.



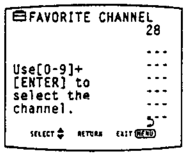
4 Touch ▲+/▼– until the cursor points to "FAVORITE CHANNEL."

5 Touch RETURN.
The FAVORITE CHANNEL screen appears, and the cursor points to the first channel position.



6 Touch ▲+/▼– to select the channel position; then touch RETURN.

7 Touch 0 – 9 and ENTER to set the channel number.



8 Touch RETURN.
The setting is complete.

To set other channels
Repeat steps 6 – 8.

To erase a favorite channel setting
Touch ▲+/▼– until the cursor points to the channel number you want to erase; then touch 0 and ENTER.

To reset a favorite channel setting
Display the FAVORITE CHANNEL screen and repeat steps 6 – 8.

To return to the previous menu
Touch ▲+/▼– until the cursor points to " ⊃ MENU."
Then touch RETURN.

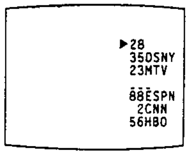
To return to the main menu
Repeat the above, until you reach the main menu.

To return to the normal screen.
Touch MENU.

Selecting a favorite channel

After setting the channels, follow these instructions to select the channel you want to watch.

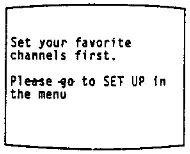
1 Touch FAVORITE (same as the RETURN key).
The FAVORITE CHANNEL display appears.



Note
If you have set channel captions (pp. 43 – 44), the captions appear with the channel numbers.

2 Touch ▲+/▼– to select the channel you want to watch; then touch RETURN (same as the FAVORITE key).
The channel is selected.

If you touch FAVORITE (same as the RETURN key) before setting FAVORITE CHANNEL, this screen appears.



Follow steps 1 – 8 to set your favorite channels, and then make the selection.

1-12. USING THE INTEGRATED REMOTE COMMANDER

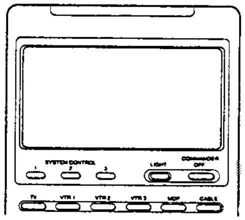
You can operate other video equipment (such as VCRs, video disc players and cable boxes) that have an infrared remote detector with this supplied Remote Commander).

Operating Sony video equipment

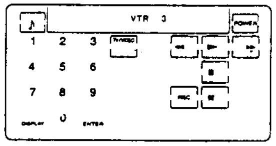
Follow these instructions to operate Sony video cassette recorders (Beta, 8 mm and VHS) and video disc players (including multi-disc players).

Example: Operate a Sony VCR connected to the VIDEO 2 IN jacks.

Remote Commander



Remote Commander LCD display panel (with VTR 3 operating keys displayed)



1 Press VTR 3 to operate a VCR (see Fig. 2).
The VTR 3 operating keys appear.

Fig. 2: Video equipment settings

If you want to operate a:	set to:
Beta, ED Beta VCR	VTR 1
8 mm VCR	VTR 2
VHS VCR	VTR 3
Video disc player	MDP

2 Use the video operating keys to control the connected equipment.

Fig. 3: Operating a VCR (VTR 1/ 2/ 3)	
To turn on or off	Touch POWER.
To change channels (when watching TV programs through the VCR's tuner)	Press CHANNEL +/–.
To record	Touch REC and ►simultaneously.
To play	Touch ►.
To stop	Touch ■.
To fast forward	Touch ►►.
To rewind the tape	Touch ◄◄.
To pause	Touch ❚❚. *To resume normal playback, touch again.*
To search the picture forward and backward	Keep touching ►► or ◄◄ during playback. *To resume normal playback, release the key.*
To change input mode	Touch TV/VIDEO.

For a complete view of other equipments' operating keys, see "LCD Key Display Quick Reference," pp. 66 – 67.

Note
If the video equipment does not have a certain function, the corresponding button on this Remote Commander will not operate.

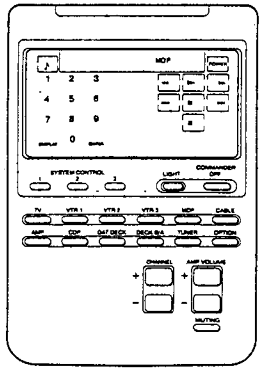
Caution
When you replace the batteries, do it within approximately 30 minutes. Otherwise the settings you made under the Pre-Programmed function (pp. 57 – 58) and Learning function (pp. 59 – 60) may be erased.

Operating non-Sony or Sony video equipment

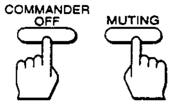
Follow these instructions to set the manufacturer code, which will enable you to operate non-Sony video equipment with the Integrated Remote Commander.
If you set a non-Sony manufacturer code to an equipment button and later switch to Sony equipment, set the Sony equipment code (Fig. 6, p. 58) to operate the equipment.

Example: Operate an RCA multi-disc player (MDP).

Remote Commander (with MDP operating keys displayed)



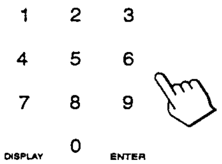
1 While pressing COMMANDER OFF, press MUTING.
The equipment name display blinks, indicating that you are in equipment selection mode.



Note
All the equipment names are displayed, but you can only select VTR 1/2/3, MDP and CABLE buttons.

2 Press MDP
"MDP" remains displayed, and the 0 – 9/ENTER/DISPLAY keys blink.

3 Touch 5, 1 and ENTER to set the RCA code number. (For manufacturer code numbers, see Figs. 4 – 7 on p. 58.)
A beep sounds, and the code numbers and ENTER appear twice.



4 Press COMMANDER OFF.
The display disappears and the setting is complete.

5 To operate the equipment, press MDP.
The MDP operating keys appear. (You can also use the CHANNEL +/– buttons to control the equipment.)
(The controls function as shown in Fig. 3: "Operating a VCR," p. 56.)

To check which manufacturer code is set
Touch DISPLAY.
The code number and ENTER appear twice.

Notes
- If more than one code number is listed, try entering them one by one, until you come to the correct code for your equipment.
- If you enter a new code number, the code number previously set to that button is erased.
- Some equipment of the same manufacturer may have a different remote control signal. If you cannot operate the equipment after setting the manufacturer code, use Learning to input the signal to this Remote Commander (pp. 59 – 60).
- If you do not touch a key within two minutes in step 1, equipment selection mode ends. To begin again, repeat step 1.

Fig. 4: VCR manufacturer code numbers

MANUFACTURER	CODE
SONY	01, 02, 03
CANON	05
EMERSON	22, 30, 33
FISHER	10, 11, 12, 15
FUNAI	29
GENERAL ELECTRIC	05, 08
GOLDSTAR	25
HITACHI	07, 08, 36
JVC	16, 35
MAGNAVOX	05, 06, 09
MITSUBISHI	18, 19, 26, 27
MULTITECH	29
NEC	16, 23, 31
PANASONIC	05, 06
PHILCO	05, 06
PHILIPS	05, 06, 09
QUASAR	05, 06
RCA	07, 08
SAMSUNG	24, 32
SANYO	11, 15
SCOTT	21
SHARP	13, 14
SHINTOM	34
SYLVANIA	05, 06, 09
SYMPHONIC	29
TEKNIKA	28, 29
TOSHIBA	20, 21
TOTE VISION	25
ZENITH	17

Fig. 5: MDP manufacturer code numbers

MANUFACTURER	CODE
SONY	04
KENWOOD	58
MAGNAVOX	52
MARANZ	54
MITSUBISHI	51
PANASONIC	55
PHILIPS	52
PIONEER	51
RCA	51
SANYO	57
SHARP	56
YAMAHA	53

Fig. 6: Sony Equipment and Code Numbers

SONY EQUIPMENT	CODE
Beta, ED Beta VCR	01
8 mm VCR	02
VHS VCR	03
Video disc player	04

Fig. 7: Cable box manufacturer code numbers

MANUFACTURER	CODE
JERROLD	60, 61, 62, 63, 64, 65
PIONEER	69, 70
SCIENTIFIC ATLANTA	66, 67
TOCOM	71, 72
ZENITH	68

Note
In some rare cases, you may not be able to operate your non-Sony video equipment with the supplied Remote Commander. This is because your equipment may use a code that is not provided with this Remote Commander. In this case, please use the equipment's own remote control unit.

For your convenience
Write the manufacturer name and code number for your equipment onto one of the supplied self-adhesive labels and affix the label to the Remote Commander for easy reference.

	BRAND	CODE
1		
2		
3		

Recalling the manufacturer code without referring to the code number charts

1 While pressing COMMANDER OFF, press MUTING.
2 Press the button (VTR 1/2/3, MDP, CABLE) of the equipment for which you need the code number.
3 Press CHANNEL +.
The power on signal for video equipment is activated, in numerical sequence from code number 01.
4 When your video equipment's power is turned on, touch DISPLAY.
The code number and ENTER appear twice.

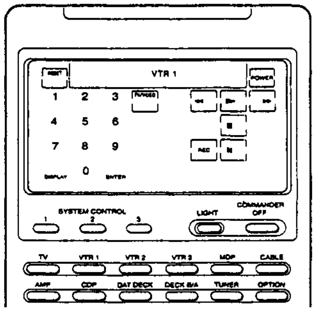
Operating non-Sony or Sony audio and video equipment (Learning function)

Follow these instructions to "teach" any of the programmable buttons to operate the function of another Remote Commander. Use Learning in order to operate non-Sony and Sony audio equipment, a remote controlled cable converter box or video equipment for which the manufacturer code is not listed (Figs. 4 – 7, p. 58).
You can also use Learning to change the function of individual buttons after setting the manufacturer code.

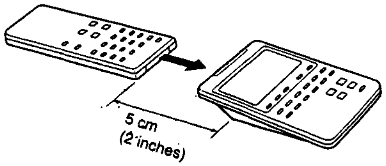
Note
If you set the manufacturer code after performing Learning the learned input is erased, so always perform Learning last.

Example: Record the ► (play) signal of the other remote commander onto the VTR 1 ► key of the supplied Remote Commander.

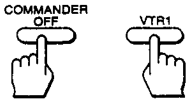
Remote Commander (with VTR 1 operating keys displayed)



1 Place the supplied Remote Commander head to head with the other equipment's remote commander, approximately 5 cm (2 inches) apart.



2 While pressing COMMANDER OFF, press VTR 1.
All the learning-able keys blink. The C+C–V+V–MU display indicates that CHANNEL +/–, AMP VOLUME +/– and MUTING buttons are also learning-able.



3 Touch ►.
The key remains displayed, and "LEARN" blinks for about 10 seconds, indicating that you are in learning mode.

4 Press and hold down the ► button of the other remote commander.
The "LEARN" display and the ► key freeze. When a beep sounds, release the key.

5 Repeat steps 3 and 4 to teach functions to other buttons.
The keys that have "learned" do not blink.

6 Press COMMANDER OFF.
Learning is complete.

(Continued)

Operating non-Sony or Sony audio and video equipment (Learning function)
(Cont'd from prev. page)

To learn another equipment's remote commander signal
After positioning the two remote commanders as in step 1 on p. 59, press the key on the supplied Remote Commander corresponding to the equipment of the other remote commander. Then follow steps 3 and 4 on p. 59 to perform learning.

For accurate learning
- Do not move the remote commanders during the learning process.
- Use as new batteries as possible in both remote commanders.
- The remote control detector area may differ depending on each remote commander. If learning is not completed, try changing the positions of the two remote commanders.

If you touch a key by mistake
While touching RESET, touch the mistaken key. Repeat from step 2 to continue learning.

If you do not perform learning within two minutes
Learning mode ends.
While pressing COMMANDER OFF, press the equipment button again to enter learning mode.

If [NG] appears during learning
The memory is full.
To free memory, clear the learned functions from keys that you do not use often. Then continue learning.

When using a double cassette deck
Press DECK B/A to display the keys for the deck that you want to use for learning.

When teaching the REC (record) signal to VTR 1/2/3
Touch REC and ► simultaneously; then perform Learning. You cannot learn on the REC key alone.

When teaching the REC (record) signal to DECK B/A, or DAT DECK
When you perform Learning, match the recording method of your equipment.
For DECK B/A, you can touch REC alone, or touch REC and ► or REC and ◄ simultaneously.
For DAT DECK, you can touch REC and ► simultaneously.

To turn off the LEARN blinking display
Touch the key that was learning again.

To change the function of a learned key
After positioning the two remote commanders as in step 1 on p. 59, while touching RESET touch the learned key (not blinking).
The key blinks, indicating that the function is cleared.
Repeat steps 2 – 4 on p. 59 to perform Learning.

To clear all the learned functions for one equipment
1 While pressing COMMANDER OFF, press the equipment button to enter learning mode.
2 While touching RESET, press the equipment button again.
A beep sounds, indicating that all the learned functions for that equipment are cleared.

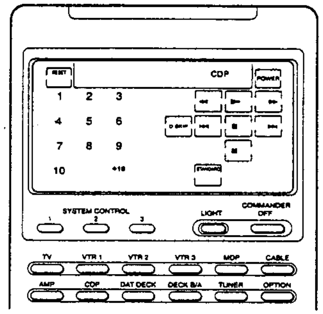
Note
The remote commander signals of certain equipment such as air-conditioners may not be learned.

Operating two of the same equipment — OPTION button

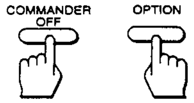
Follow these instructions to operate two of the same kind of equipment with the Remote Commander. Set the operating keys of the equipment to the OPTION button, and operate the second equipment with those keys, displayed by pressing OPTION.

Example: Connect and operate a second CD player (CDP).

Remote Commander (with CDP operating keys displayed)



1 While pressing COMMANDER OFF, press OPTION.
The equipment name display blinks.



2 Press CDP.
The CDP operating keys blink and a beep sounds, indicating that the operating keys are set. You are also in learning mode; to perform learning, follow steps 2 – 4 on p. 59).

3 Press COMMANDER OFF.
The setting is complete.

To enter a new setting
Repeat steps 2 and 3.

To change the setting
1 While pressing COMMANDER OFF, press OPTION.
The operating keys blink, indicating that you are in learning mode.
2 While touching RESET, press OPTION.
3 While touching RESET, press OPTION again.
A beep sounds, the keys disappear and the equipment name display blinks, indicating that you are in equipment selection mode.

Executing a series of commands — SYSTEM CONTROL buttons

The SYSTEM CONTROL buttons are preset with the following commands:

SYSTEM CONTROL 1: All systems power on.

SYSTEM CONTROL 2: No setting

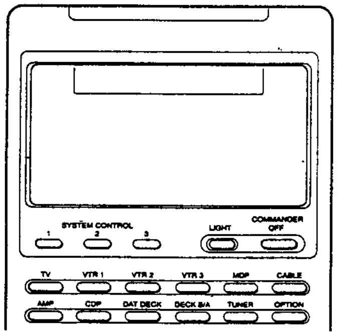
SYSTEM CONTROL 3: All systems power off.

Follow these instructions to apply a series of operating commands, and execute the commands simply by pressing one button.

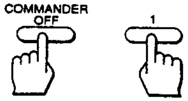
Example: Connect a VCR to the the VIDEO 1 IN jacks on the TV, and program SYSTEM CONTROL 1 to execute the following series of commands:

1. Turn on the power of the VCR (VTR 1).
2. Turn on the amplifier power and set the selector to VTR.
3. Turn on the TV and set the input mode to VTR 1.
4. Begin VCR playback.

Remote Commander

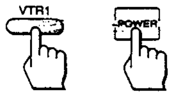


1 While pressing COMMANDER OFF, press SYSTEM CONTROL 1.
All the equipment names blink, indicating that you are in equipment selection mode.

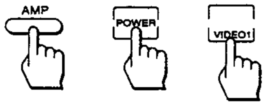


If the original SYSTEM 1 command setting remains, while touching RESET press SYSTEM CONTROL 1 to reset the input and display the equipment names.

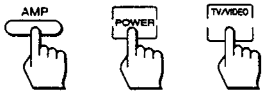
2 Press VTR 1, then touch POWER.
When you press the equipment button the key display blinks, indicating that you are in operating key selection mode.



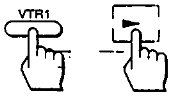
3 Press AMP, then touch POWER and VIDEO 1.
The remote control signal for that function is sent, so you can confirm that the command is input.



4 Press TV, touch POWER, and touch TV/VIDEO to select VTR 1.



5 Press VTR 1, then touch ►.



6 Press COMMANDER OFF.
The setting is complete.

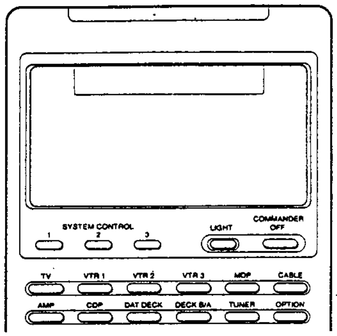
To execute the commands
Press SYSTEM CONTROL 1.
The operating keys appear as the commands are executed in order.

Notes
- If you interrupt the setting at any point for over two minutes, setting mode ends. Reset the SYSTEM CONTROL button (see p. 63) and begin again from step 1. You cannot continue from where you left off.
- When there are many steps, or if the equipments' remote control detectors are too far apart, some commands may not be executed. If this happens, adjust the Remote Commander or equipment position. If you do not correct the position or if objects block the space between the Remote Commander and the equipment, a mistaken command may be executed.

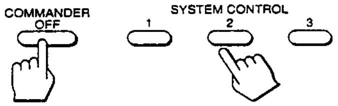
Changing the SYSTEM CONTROL commands

Follow these instructions to change the commands input to a SYSTEM CONTROL button.

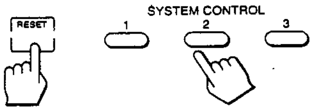
Remote Commander



1 While pressing COMMANDER OFF, press the SYSTEM CONTROL button (1/2/3) you want to clear.
The command operating keys appear in order.



2 While touching RESET, press the SYSTEM CONTROL button (1/2/3) you want to clear.
The commands are cleared, and you are in equipment selection mode.



To enter new commands
Repeat steps 2 – 4 on p. 62.

Convenient uses for SYSTEM CONTROL

The SYSTEM CONTROL buttons operate independently from the other Remote Commander functions. By making use of the unique characteristics of these buttons, you can for instance:

- Input an often-used command, such as TV power on/off, so that you can execute this command regardless of the current equipment operating mode.
- When the series of input commands is executed, the Remote Commander remains set to the equipment operating mode of the final step. By making an often-used equipment's command the final step, you can then use the displayed keys to operate the equipment.

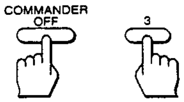
Note
Some equipment cannot be turned off using SYSTEM CONTROL.

Restoring the original SYSTEM CONTROL functions

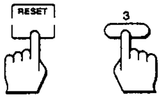
Follow these instructions to clear the input commands and restore the original preset functions to SYSTEM CONTROL 1 or 3.

Example: Restore the power off function to SYSTEM CONTROL 3.

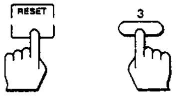
1 While pressing COMMANDER OFF, press SYSTEM CONTROL 3.
The memorized commands' operating keys appear in order.



2 While touching RESET (same as ♪ key), press SYSTEM CONTROL 3.
The memorized commands are cleared, and equipment selection mode begins.



3 While touching RESET (same as ♪ key), press SYSTEM CONTROL 3 again.
The original Sony AV system power off function is restored, and the keys appear in order.

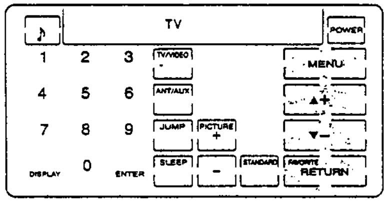


Selecting a VCR mode directly — DIRECT PLAY

Follow these instructions to switch from TV to your connected VCR mode by simply touching the ► (playback) operating key of the VTR (1/2/3) mode that you choose.

Example: Connect your VCR to the VIDEO 2 IN jacks, and press VTR 2 to display the VTR 2 operating keys. When you touch ►, the input mode changes to the VCR connected to the VIDEO 2 IN jacks.

Remote Commander LCD touch key display
(Press the TV button to display the TV operating keys.)



1 Touch MENU.
The main menu appears.

```
▶PROG PALETTE
 MODE SET
 TIME
 SET UP
 ENGLISH
SELECT  RETURN  EXIT MENU
```

2 Touch ▲+/▼– until the cursor points to "SET UP."

3 Touch RETURN.
The set up menu appears.

```
▶CABLE: ON
 AUTO PROGRAM
 CH ERASE/ADD
 CH CAPTION
 VIDEO LABEL
 DIRECT PLAY
 FAVORITE CHANNEL
 ⊃MENU
```

4 Touch ▲+/▼– until the cursor points to "DIRECT PLAY."

5 Touch RETURN.
A message screen appears.

```
DIRECT PLAY

Program your remote
with PRESET CODE before
using DIRECT PLAY
feature.
SELECT  RETURN  EXIT MENU
```

Note
This screen reminds you to set the manufacturer's code, if you have not already done so (pp. 57 – 58).

6 Touch RETURN again.
The DIRECT PLAY screen appears.

```
DIRECT PLAY
▶VIDEO1: VTR 1
 VIDEO2: VTR 1
 VIDEO3: OFF
 ⊃

 VTR1 2 3 MDP
SELECT  RETURN  EXIT MENU
```

7 Touch ▲+/▼– until the cursor points to the video input mode. (When the video equipment is connected to VIDEO 2 IN, select "VIDEO2.")

8 Touch RETURN.
The mode display turns red.

9 Touch ▲+/▼– to select the VTR mode you want to use. (To use VTR 2 mode, select "VTR 2.")
Each time you touch ▲+/▼–, "VTR 1," "VTR 2," "VTR 3," "MDP" and "OFF" appear in sequence.

```
DIRECT PLAY
 VIDEO1: VTR 1
 VIDEO2: VTR 2
 VIDEO3: OFF
 ⊃

 VTR1 2 3 MDP
SELECT  RETURN  EXIT MENU
```

10 Touch RETURN.
The direct play setting is complete.

To set direct play for other connected video equipment
Repeat steps 7 – 10.

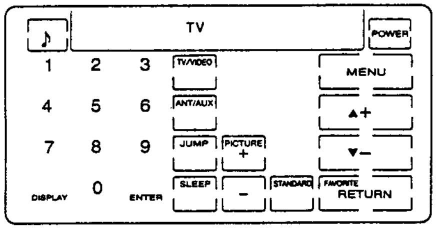
To return to the previous menu
Touch ▲+/▼– until the cursor points to "⊃ MENU."
Then touch RETURN.

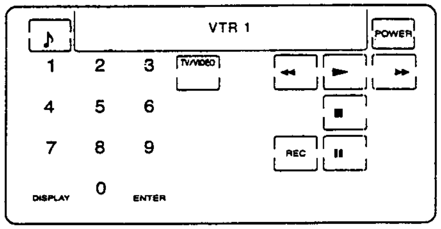
To return to the main menu
Repeat the above, until you reach the main menu.

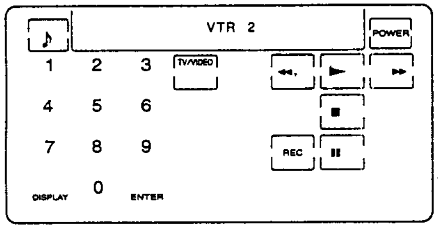
To return to the normal screen.
Touch MENU.

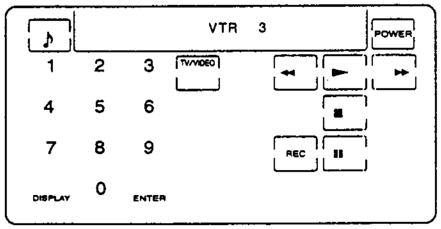
1-13. LCD KEY DISPLAY QUICK REFERENCE

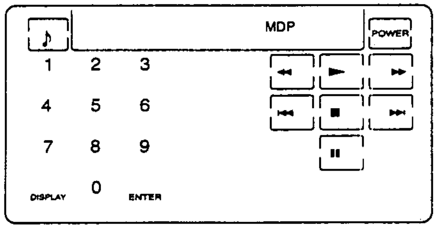
The following quick reference shows the operating keys that appear in the Remote Commander's LCD touch display area, when you press the corresponding operating mode selection button.

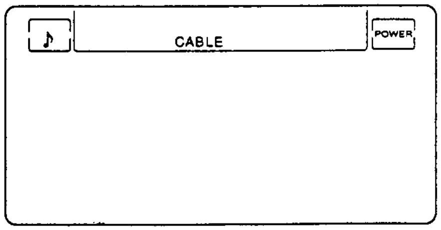




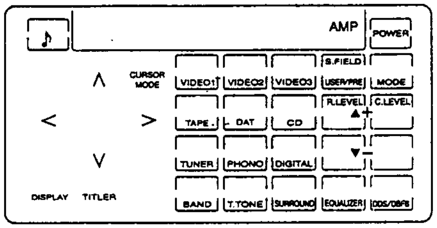


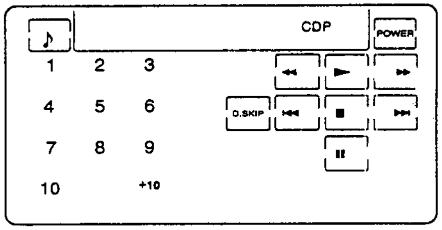


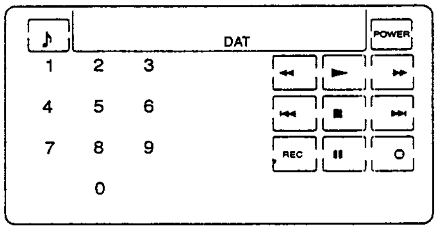


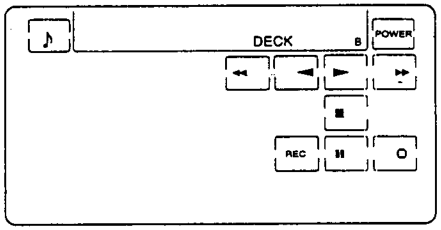


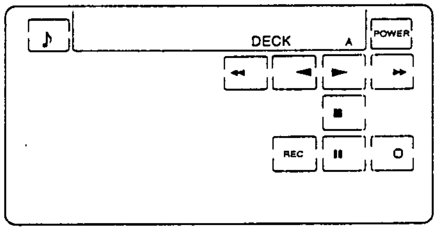
Note
When you press the CABLE button, no display appears until you set the pre-programmed cable box manufacturer code (pp. 57 – 58).

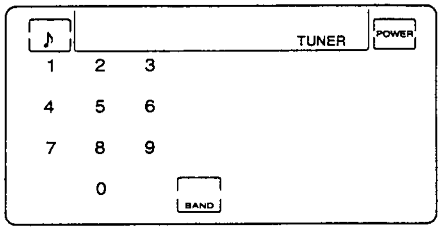












LCD Key Display Quick Reference

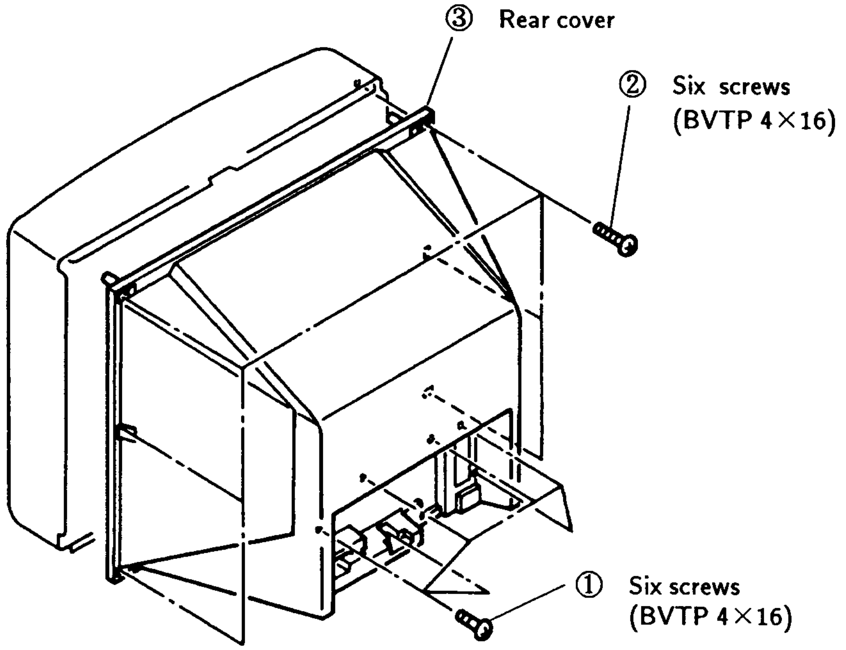
1-14. TROUBLESHOOTING

Disturbances in picture and sound can often be eliminated by checking the symptoms and following the suggestions listed here. If the problem still cannot be solved, contact your nearest service facility.

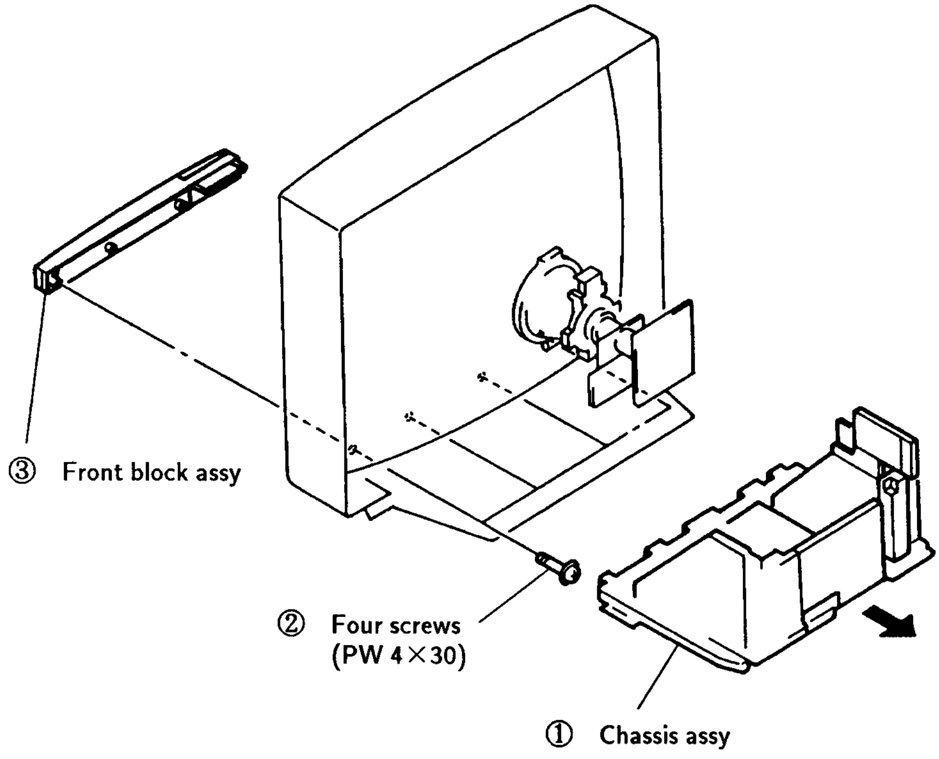
Symptom	Possible causes and remedies
No picture (screen not lit), no sound	• Make sure POWER is switched on. • Check the power cord connection. • Check that the input mode is set correctly.
Poor or no picture (screen not lit), good sound	• Adjust the picture using the VIDEO screen (pp. 38 – 41). • Check the antenna/cable connections.
Good picture, no sound	• Make sure an audio system is connected correctly. • Press VOLUME + on the TV or AMP VOLUME + on the Remote Commander. • Press MUTING on the Remote Commander. • Check the MTS setting (pp. 34 – 35). • Check that the input mode is set correctly.
No color for color programs	• Check the HUE and COLOR settings (pp. 38 – 39).
Snow and noise only	• Check that it is an active or correct channel. • Check the cable setting. • Check the ANT/AUX key setting. • Check antenna/cable connections.
Dotted lines or stripes	This is often caused by local interference (for example, cars, neon signs and hairdryers). Adjust the telescopic aerial for minimum interference.
Double images or ghosts	Reflections from nearby mountains or buildings often cause this problem. Connecting a highly directional outdoor antenna or a CATV cable may improve the picture.
Try another channel. It could be station trouble.	

SECTION 2
DISASSEMBLY

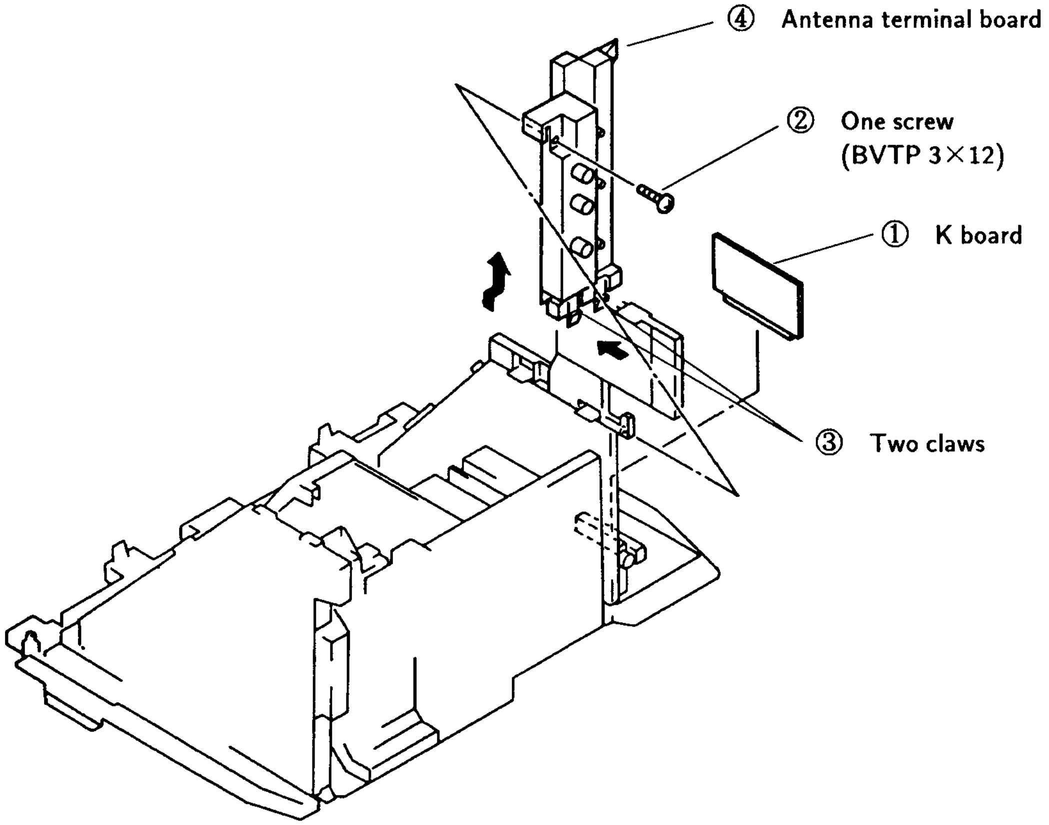
2-1. REAR COVER REMOVAL



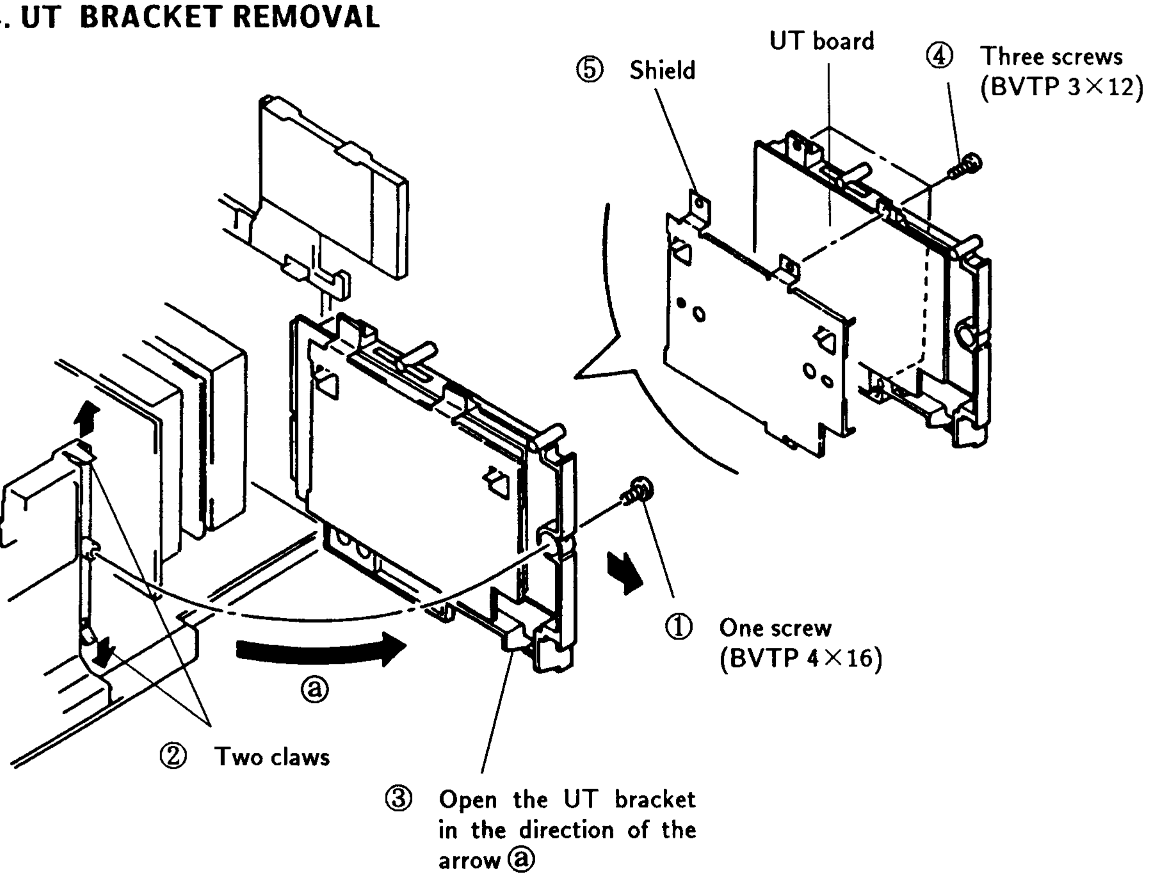
2-2. CHASSIS ASSY AND FRONT BLOCK ASSY REMOVAL



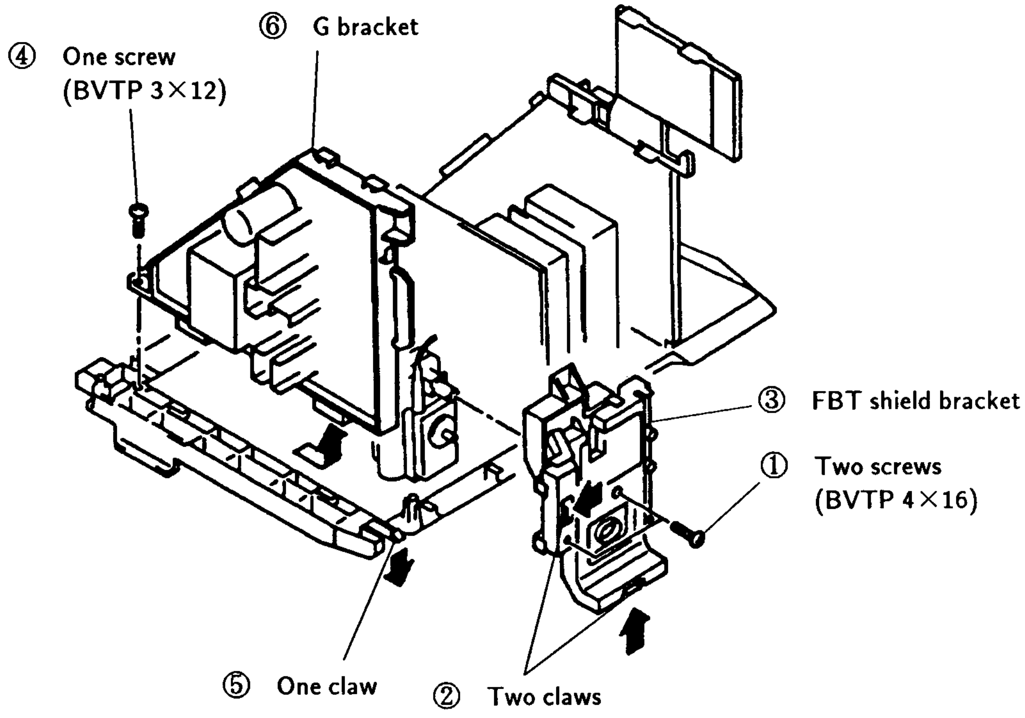
2-3. K BOARD AND ANTENNA TERMINAL BOARD REMOVAL



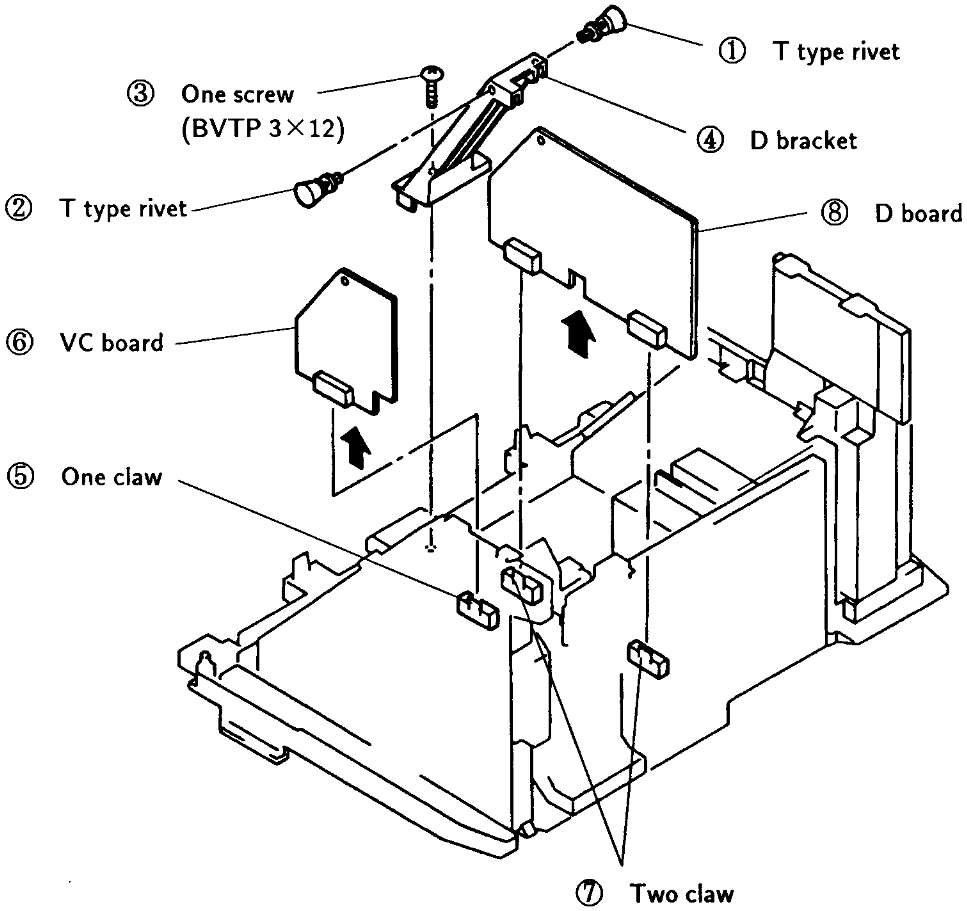
2-4. UT BRACKET REMOVAL



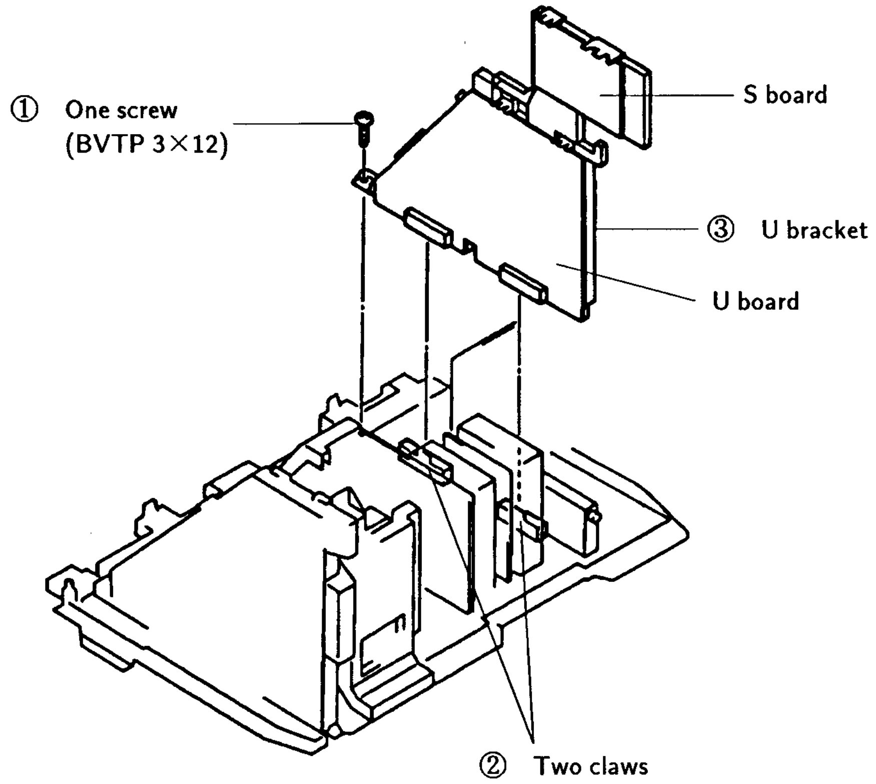
2-5. G BRACKET REMOVAL



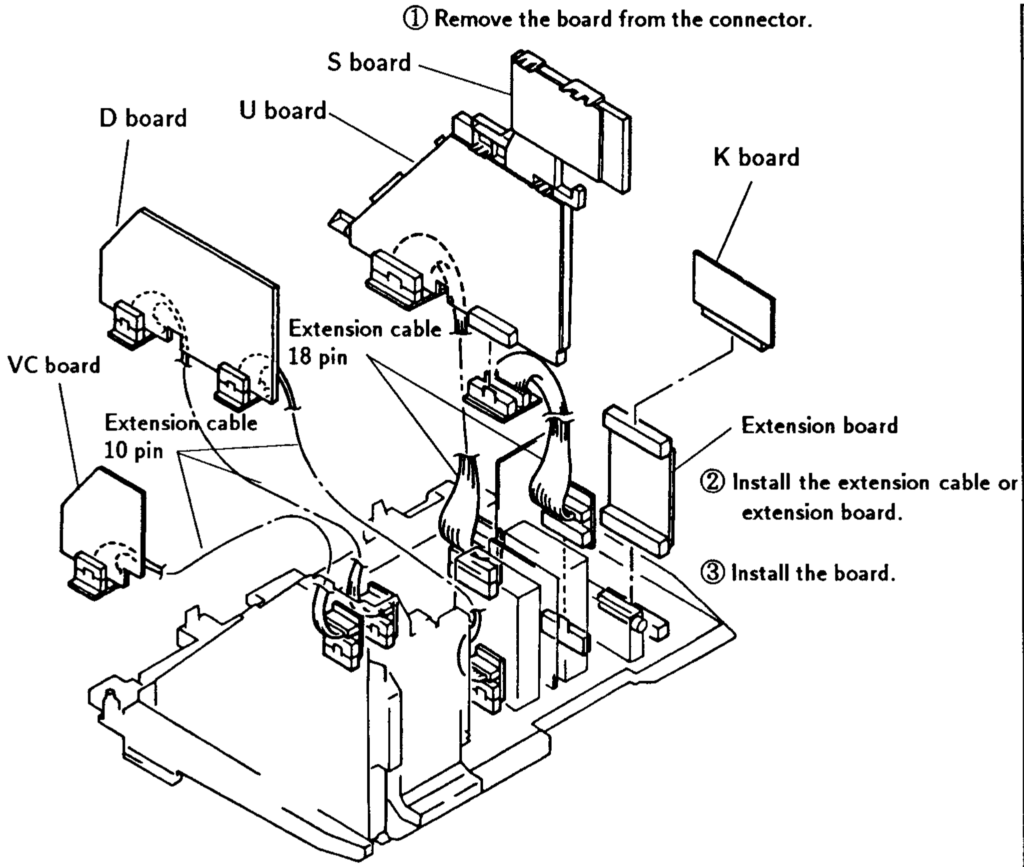
2-6. D AND VC BOARDS REMOVAL

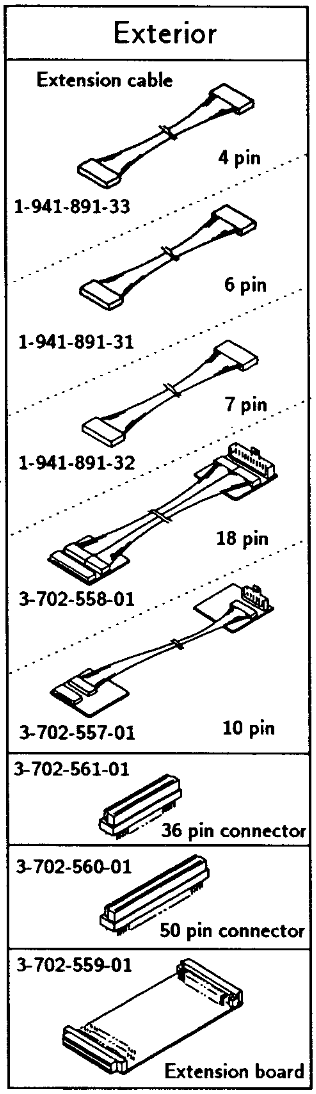


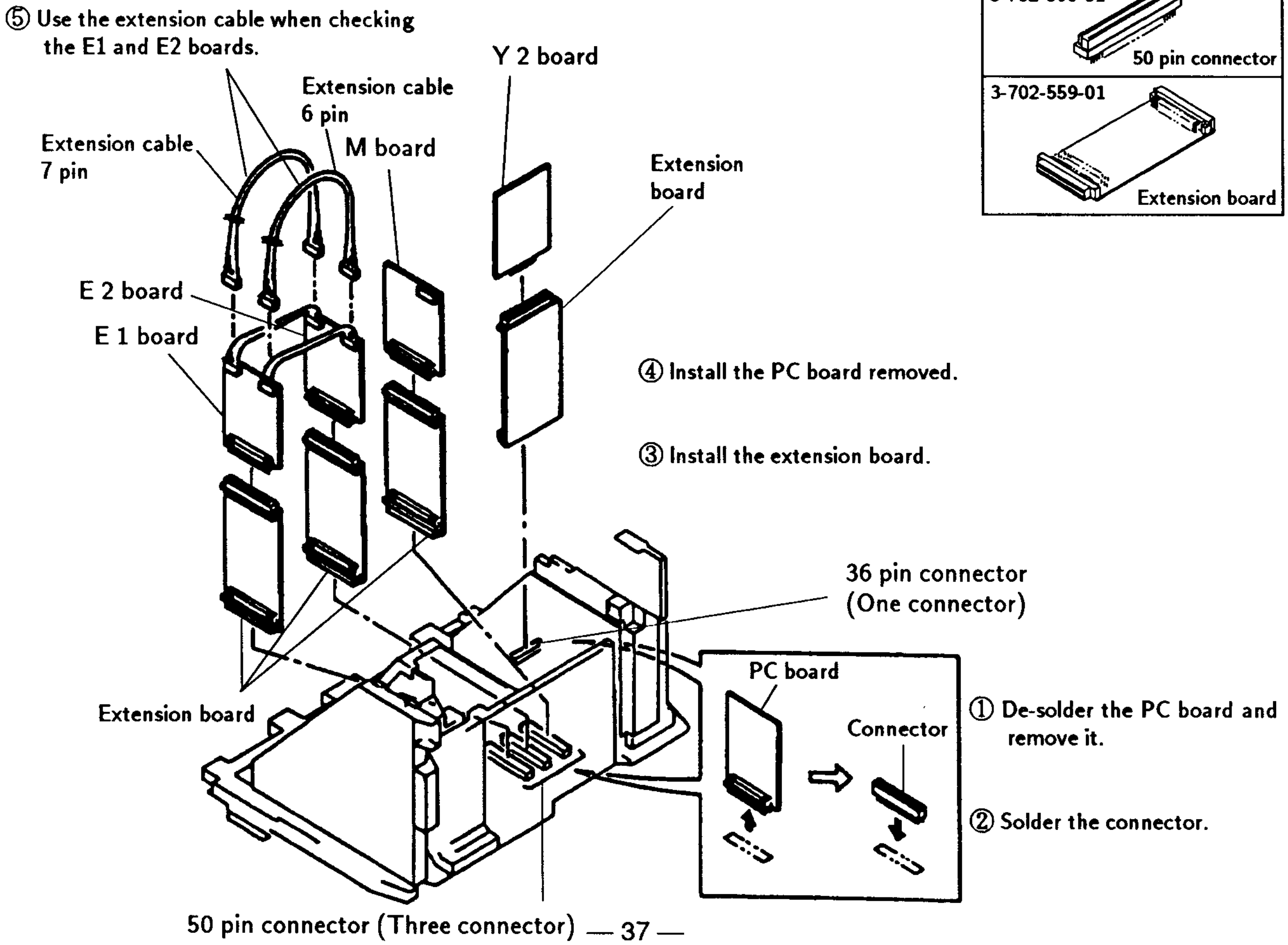
2-7. U BRACKET REMOVAL



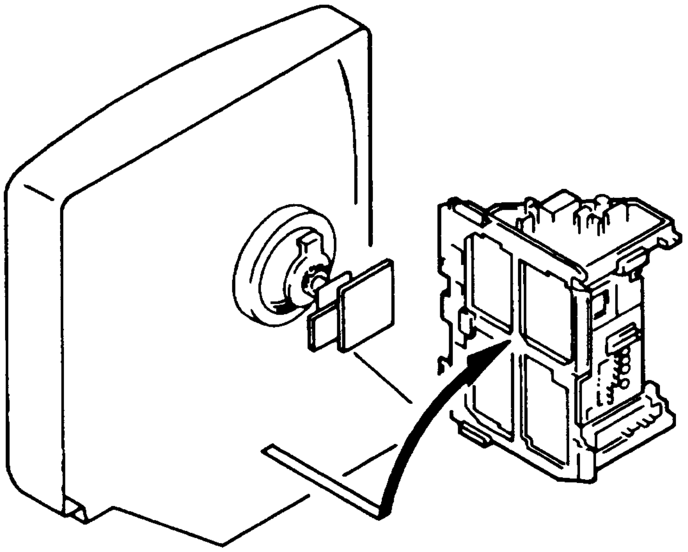
2-8. CONNECTOR CABLE



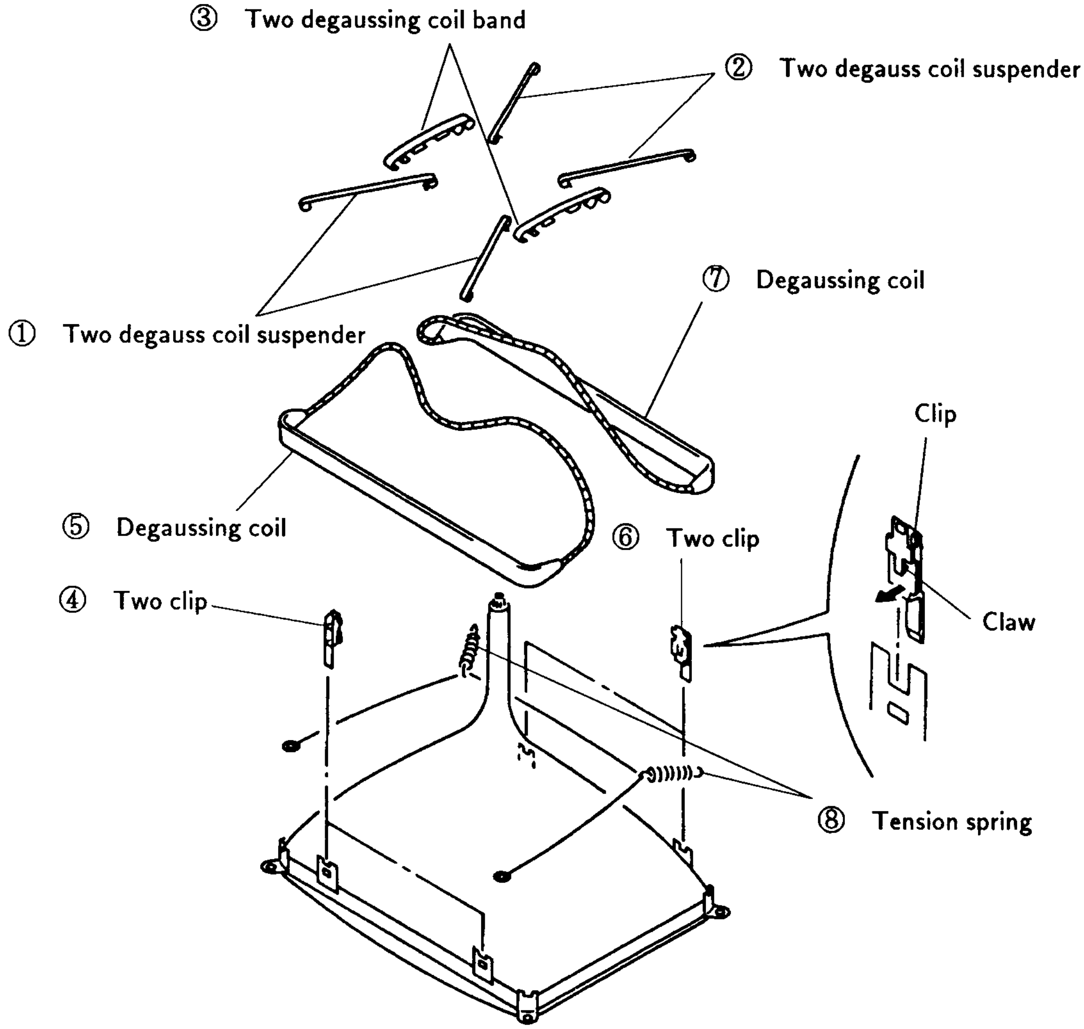




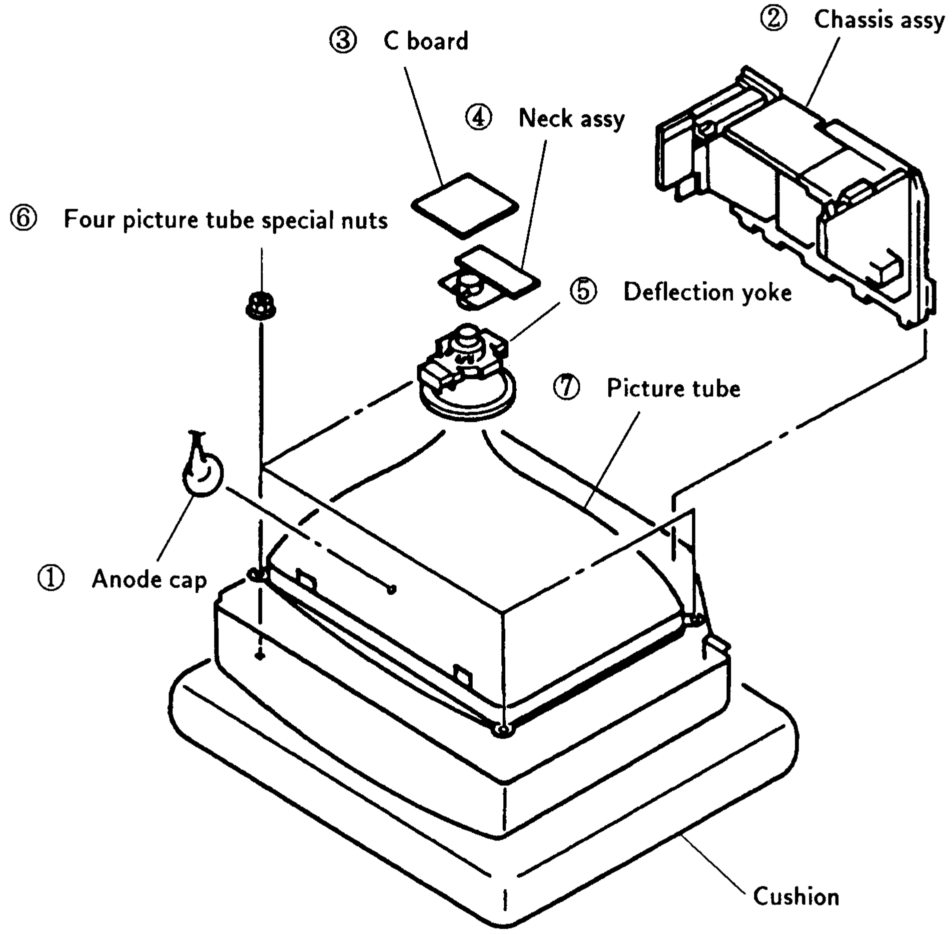
2-9. SERVICE POSITION



2-10. DEGAUSSING COIL REMOVAL



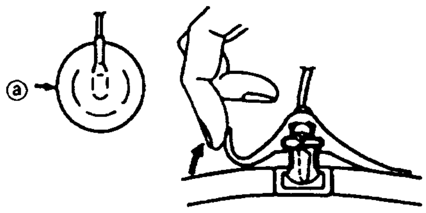
2-11. PICTURE TUBE REMOVAL



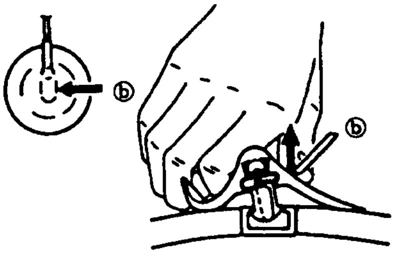
• REMOVAL OF ANODE-CAP

NOTE : Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT, after removing the anode.

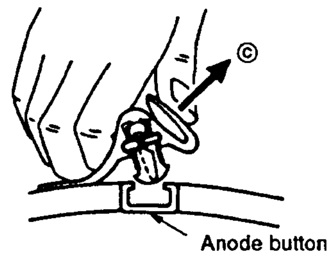
• REMOVING PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.



② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.



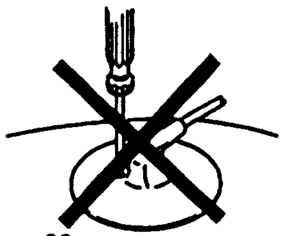
③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

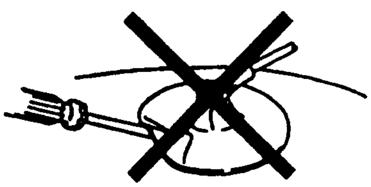
• HOW TO HANDLE AN ANODE-CAP

① Don't hurt the surface of anode-caps with sharp shaped material!

② Don't press the rubber hardly not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.

③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or hurt the rubber.





2-12. REPAIR OF CHIP COMPONENT CIRCUIT BOARD

2-12-1. POINTS OF COMPONENT REMOVAL

Handing of blower type soldering iron

If hot blast is too strong or applied from a slanting direction, small components and solder near the component being removed can be blown off. Do not use blower type without temperature control.

2-12-2. NOTES ON SOLDERING FOR CHIP COMPONENTS

1) During soldering a chip component, if a soldering iron is applied for a long time, the heat may damage the component or cause pattern peeling.
2) Do not reuse a removed component. The characteristics of such a component may deteriorate.
3) Use wire solder containing silver (ϕ 0.3 or ϕ 0.6). (The pin electrodes of the laminated chip capacitor are silver +palladium, so if wire solder which does not contain silver is used, the silver of the pin electrode will be sucked into the solder.)

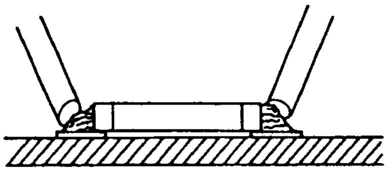
2-12-3. REMOVAL AND MOUNTING OF COMPONENTS

Chip resistor and chip capacitor

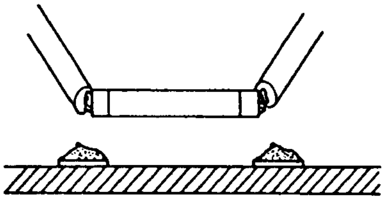
REMOVAL

- Using two soldering irons
  1) Mounted state

2)Melt the solder.

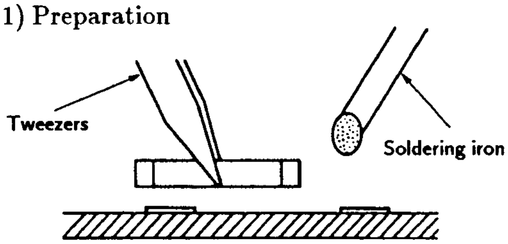


3)Remove the component.



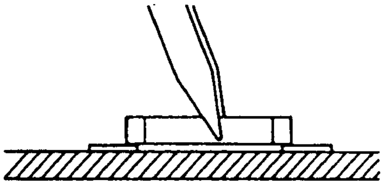
SOLDERING

1) Preparation

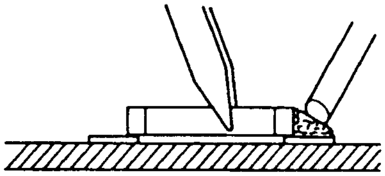


2) Location

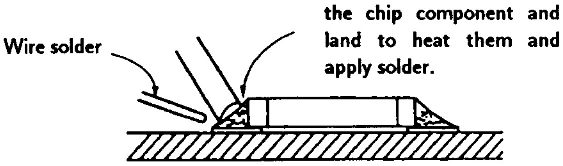
Be careful not to misposition.



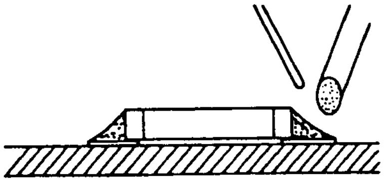
3) Tack soldering and flux application



4) Soldering



5) Soldering (Fix the fillet.)



6) Visual inspection

Check for the following defects :

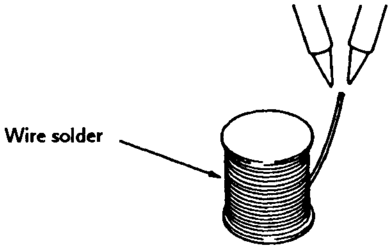
- No-soldered part
- Bridge (to other components or lands)
- Mispositioning
- Other defects

2-12-4. MINI-TRANSISTOR

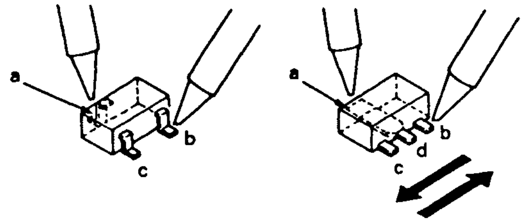
REMOVAL

- Using two soldering irons

1) Put a little solder on the tip of two soldering irons.

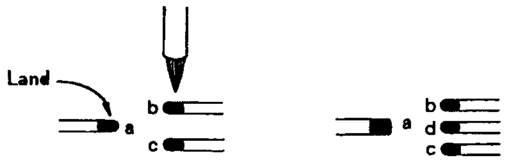


2) Apply the tip of one soldering iron to the point "a" and the other to the points "b" → "c" (or "b" → "d" → "c") and move the component in the directions indicated by arrows in the figure to remove it.

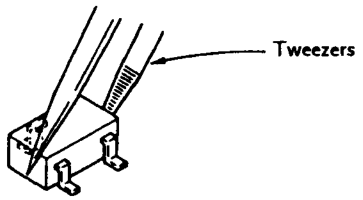


MOUNTING

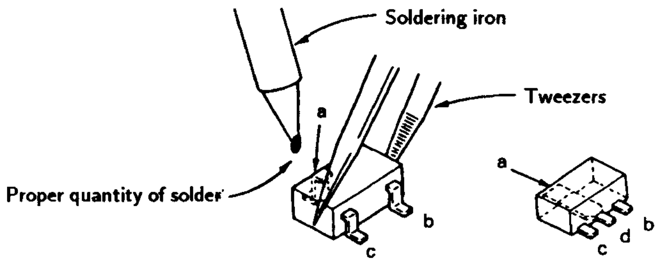
1) Apply a little flux to the land with a brush.



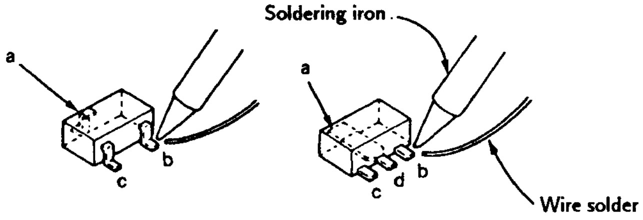
2) Place the component in position using tweezers.



3) Put a little solder on the tip of the soldering iron and solder the point "a" to fix the component.



4) Bring the tip of the soldering iron and the wire solder close to the point to be soldered. Solder the points "b" → "c" (or "b" → "d" → "c") in order.



G

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION			REMARK
C612	1-164-625-11	CERAMIC	680PF	10%	500V
C613	1-164-625-11	CERAMIC	680PF	10%	500V
C614	1-164-625-11	CERAMIC	680PF	10%	500V
C615	1-164-625-11	CERAMIC	680PF	10%	500V
C616	1-124-443-00	ELECT	100MF	20%	10V
C618	1-164-735-11	CAP, CERAMIC	1500PF		
C619	1-164-735-11	CAP, CERAMIC	1500PF		
C620 ⚠	1-161-741-51	CERAMIC	0.001MF	10%	400V
C621 ⚠	1-161-741-51	CERAMIC	0.001MF	10%	400V
C622	1-162-599-12	CERAMIC	0.0047MF	20%	400V
C623	1-137-493-11	FILM	0.0047MF	5%	630V
C624	1-126-301-11	ELECT	1MF	20%	50V
C625	1-126-162-11	ELECT	3.3MF	20%	50V
C626	1-130-480-00	MYLAR	0.0056MF	5%	50V
C651	1-124-960-11	ELECT	470MF	20%	180V
C652	1-124-556-11	ELECT	2200MF	20%	16V
C653	1-124-913-11	ELECT	470MF	20%	50V
C655	1-162-117-00	CERAMIC	100PF	10%	500V
C656	1-124-119-00	ELECT	330MF	20%	16V
C657	1-106-351-00	MYLAR	0.0022MF		200V
C658	1-126-157-11	ELECT	10MF	20%	16V
C659	1-130-485-00	MYLAR	0.015MF	5%	50V
C661	1-124-484-11	ELECT	220MF	20%	35V
C662	1-124-484-11	ELECT	220MF	20%	35V
C663	1-126-104-11	ELECT	470MF	20%	35V
C666	1-126-101-11	ELECT	100MF	20%	16V
C667	1-124-443-00	ELECT	100MF	20%	10V
C668	1-124-638-11	ELECT	22MF	20%	6.3V
C669	1-162-318-11	CERAMIC	0.001MF	10%	500V
C670	1-162-318-11	CERAMIC	0.001MF	10%	500V
C672	1-124-484-11	ELECT	220MF	20%	35V
C677 ⚠	1-136-311-51	FILM	0.47MF	20%	125V
C678	1-124-360-00	ELECT	1000MF	20%	16V

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D601 ⚠	8-719-022-99	DIODE D6SB60L	
D602	8-719-510-48	DIODE D1N20R	
D603	8-719-510-48	DIODE D1N20R	
D604	8-719-510-48	DIODE D1N20R	
D605	8-719-510-48	DIODE D1N20R	
D606	8-719-911-19	DIODE 1SS119	
D607	8-719-510-48	DIODE D1N20R	
D608	8-719-510-48	DIODE D1N20R	
D609	8-719-510-48	DIODE D1N20R	
D610	8-719-510-48	DIODE D1N20R	
D611	8-719-510-48	DIODE D1N20R	
D612	8-719-510-48	DIODE D1N20R	
D613	8-719-109-93	DIODE RD6.2ES-B2	
D651	8-719-027-43	DIODE S2L20UF	
D652	8-719-027-43	DIODE S2L20UF	
D653	8-719-027-43	DIODE S2L20UF	
D654	8-719-027-43	DIODE S2L20UF	
D655	8-719-510-13	DIODE D10SC4MR	
D656	8-719-022-97	DIODE D2S4MF	
D657	8-719-510-02	DIODE D1NS4	
D663	8-719-510-02	DIODE D1NS4	
D665	8-719-510-02	DIODE D1NS4	
D666	8-719-109-85	DIODE RD5.1ES-B2	
D667	8-719-911-19	DIODE 1SS119	
D668	8-719-911-19	DIODE 1SS119	
D669	8-719-109-54	DIODE RD2.2ES-B2	
D670	8-719-911-19	DIODE 1SS119	
D671	8-719-110-31	DIODE RD12ES-B2	
D672	8-719-911-19	DIODE 1SS119	

<FUSE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
F1 ⚠	1-532-783-21	FUSE, MICRO (SECONDARY) 5A/125V	
F601 ⚠	1-576-222-11	FUSE 6.3A/125V	
	1-533-190-11	CLIP, FUSE; F601	
F602 ⚠	1-576-107-22	FUSE 3.15A/250V	
	1-533-223-11	CLIP, FUSE; F602	

<FERRITE BEAD>

REF.NO.	PART NO.	DESCRIPTION	REMARK
FB651	1-410-397-21	FERRITE BEAD INDUCTOR	
FB652	1-410-397-21	FERRITE BEAD INDUCTOR	
FB653	1-410-397-21	FERRITE BEAD INDUCTOR	
FB654	1-410-397-21	FERRITE BEAD INDUCTOR	
FB655	1-412-911-11	INDUCTOR, FERRITE BEAD	
FB656	1-410-397-21	FERRITE BEAD INDUCTOR	
FB659	1-412-911-11	INDUCTOR, FERRITE BEAD	
FB669	1-410-397-21	FERRITE BEAD INDUCTOR	
FB670	1-410-397-21	FERRITE BEAD INDUCTOR	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
G3	*1-573-986-11	PIN, CONNECTOR (PC BOARD) 5P	
G4	*1-564-510-11	PLUG, CONNECTOR 7P	
G27	*1-573-963-11	PIN, CONNECTOR (PC BOARD) 3P	
G28	*1-573-963-11	PIN, CONNECTOR (PC BOARD) 3P	
G29	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P	
G31	*1-580-843-11	PIN, CONNECTOR (POWER)	
G34	*1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P	
TP651	*1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC651 ⚠	1-809-524-11	MODULE, POWER DM-44	
IC654	8-719-156-73	PHOTO COUPLER PS2501 1LB	

<COIL>

REF.NO.	PART NO.	DESCRIPTION		REMARK
L651	1-412-526-11	INDUCTOR	12UH	
L652	1-410-673-31	INDUCTOR	68UH	
L653	1-412-532-11	INDUCTOR	39UH	
L654	1-412-532-11	INDUCTOR	39UH	
L655	1-412-532-11	INDUCTOR	39UH	
L656	1-412-526-11	INDUCTOR	12UH	

<TRANSISTOR>

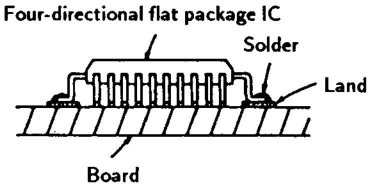
REF.NO.	PART NO.	DESCRIPTION	REMARK
Q601	8-729-927-23	TRANSISTOR 2SC4664NPR-F	
Q602	8-729-927-23	TRANSISTOR 2SC4664NPR-F	
Q603	8-729-927-23	TRANSISTOR 2SC4664NPR-F	
Q604	8-729-927-23	TRANSISTOR 2SC4664NPR-F	
Q605	8-729-209-15	TRANSISTOR 2SD2012	
Q652	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q653	8-729-201-53	TRANSISTOR 2SA1015-GR	
Q654	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q655	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q656	8-729-119-78	TRANSISTOR 2SC2785-HFE	

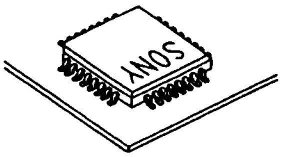
<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R601	1-249-388-11	CARBON	3.9	5%	1/4W	F
R602 ⚠	1-205-707-12	WIREWOUND	2.2	5%	10W	F
R603	1-247-889-00	CARBON	270K	5%	1/4W	

2-12-6. FOUR-DIRECTIONAL FLAT PACKAGE IC

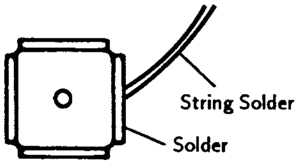
MOUNT CONDITION



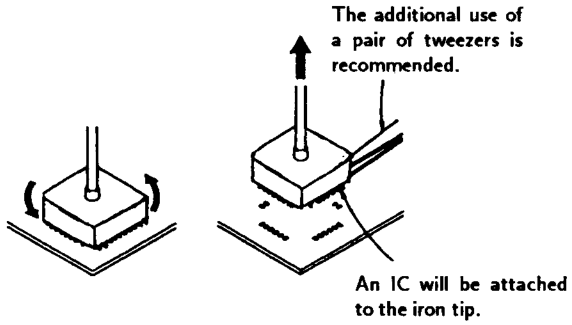


REMOVAL

1) Apply solder on the tip of the iron tip jig.



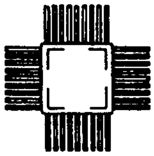
2) Place the iron tip jig over the IC, wait about two to three seconds, rotate the iron slightly and lift it up.



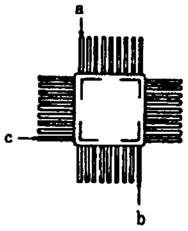
Note : For flat ICs of above 52 P, the IC may not be completely attracted when the iron tip jig is lifted up. In these cases, use a pair of tweezers to remove.

INSTALLATION

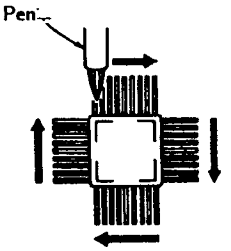
1) Place the four-directional flat package IC at the appointed position.



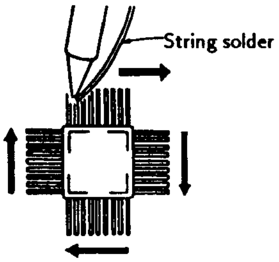
2) Apply a slight amount of solder on the iron tip, and solder the three sections in the order of a → b → c, and fix.



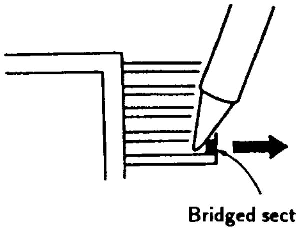
3) Apply a slight amount of flux with a pen on all four directions.



4) Apply solder on the iron tip and the string solder, and slide and solder in the directions of the arrows.



Note : 1) After soldering, if there are bridged sections, correct by sliding the soldering iron in the direction of the arrow.



If the bridges cannot be corrected using the above method, apply some flux with a pen and try again.

2) Soldering can be carried out more easily by sliding the iron tip near the tip of the IC leg. (Fig. A)

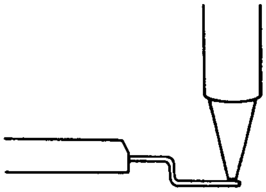


Fig. A

Be careful not to slide the bent sections of the leg as shown in Fig. B as soldering bridges will be formed.

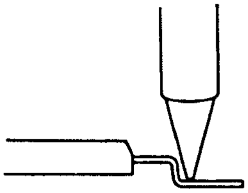
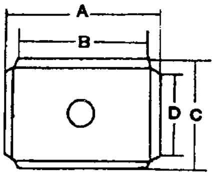
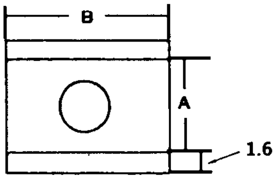
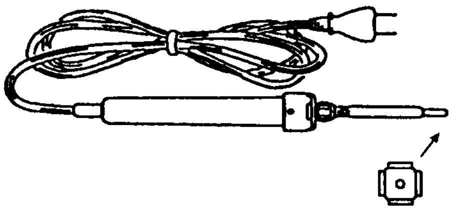
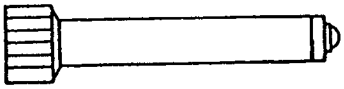


Fig. B

Exterior	Description	Part No.	Measure (mm)			
			A	B	C	D
	jig for removing 4-sided flat package IC	3-702-554-01 〃 11 〃 21 〃 31 〃 41 〃 51	12.5 15.5 16.3 17.0 23.0 20.0	9.5 12.5 13.3 14.0 20.0 17.0	12.5 15.5 16.3 17.0 17.0 20.0	9.5 12.5 13.3 14.0 14.0 17.0
	jig for removing 2-sided flat package IC	3-702-555-01 〃 11 〃 21 〃 31 〃 41	6.0 6.0 7.0 9.0 9.0	5.0 10.0 12.5 15.2 18.0		
	soldering iron	3-702-552-01	55 W 60 g length 210 mm			
	soldering holder	3-702-553-01				

SECTION 3
SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

Controls and switch should be set as follows unless otherwise noted :

PICTURE control . . . . RESET
BRIGHTNESS control . . . . center

Perform the adjustments in order as follows :

1. Beam Landing
2. Convergence
3. Focus
4. White Balance

Note : Test Equipment Required.

1. Color-bar/Pattern Generator
2. Degausser
3. Oscilloscope

Preparations :

- In order to reduce the influence of geomagnetism on the set's picture tube face it east or west.
- Switch on the set's power and degauss with the degausser.

3-1. BEAM LANDING

1. Input the white signal with the pattern generator.
   Contrast } normal
   Bightness }
2. Position neck ass'y as shown in Fig 3-2.
3. Set the pattern generator raster signal to red.
4. Move the deflection yoke to the rear and adjust with the purity control so that the red is at the center and the blue and the green take up equally sized areas on each side.
   (See Figures 3-1 through 3-3.)
5. Move the deflection yoke forward and adjust so that entire screen is red. (See Figure 3-1.)
6. Switch the raster signal to blue, then to green and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it.
   (See Figure 3-4.)

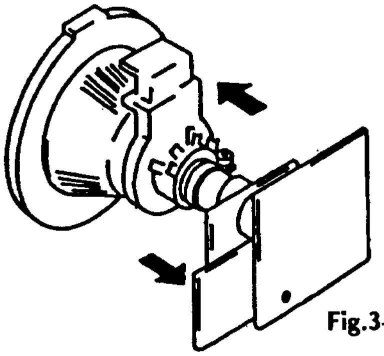


Fig.3-1

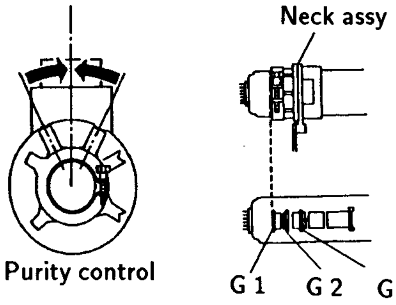


Fig.3-2

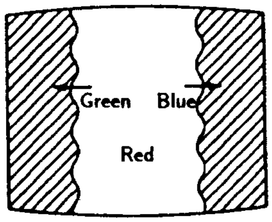


Fig.3-3

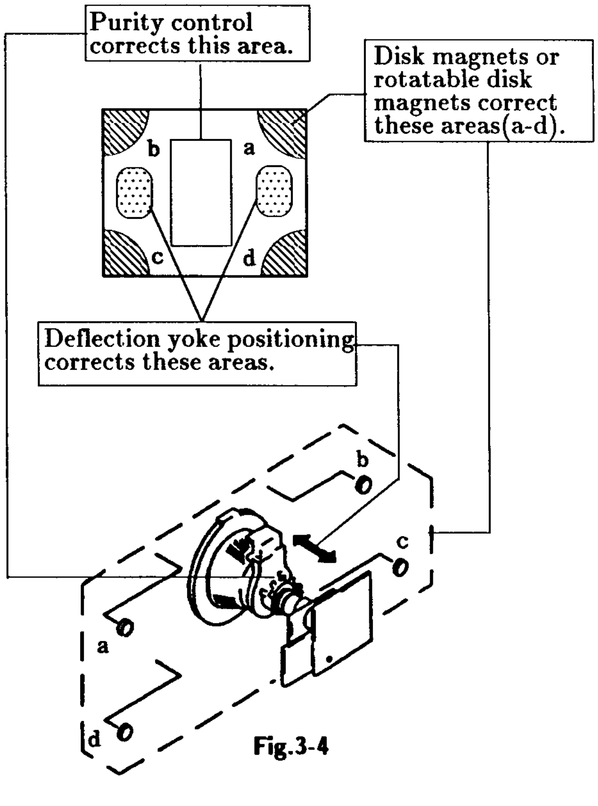


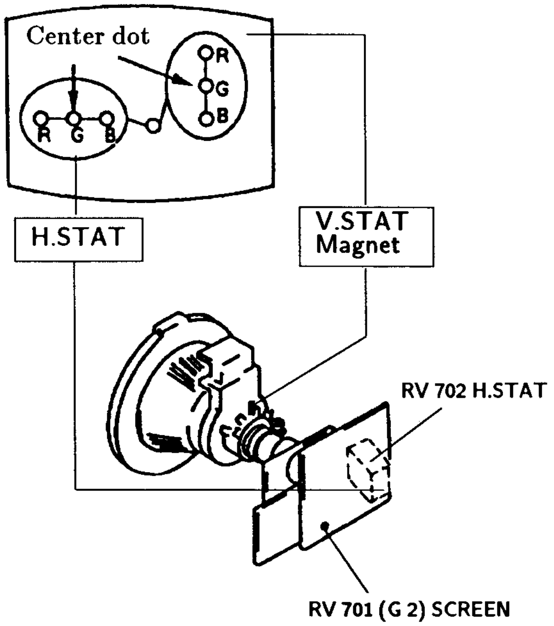
Fig.3-4

3-2. CONVERGENCE

Preparation :

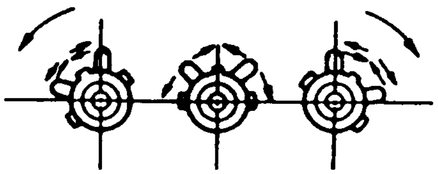
- Before starting this adjustment, adjust the focus, horizontal size, and vertical size.
- Minimize the brightness setting.
- Provide dot pattern.

(1) **Horizontal and Vertical Static Convergence**

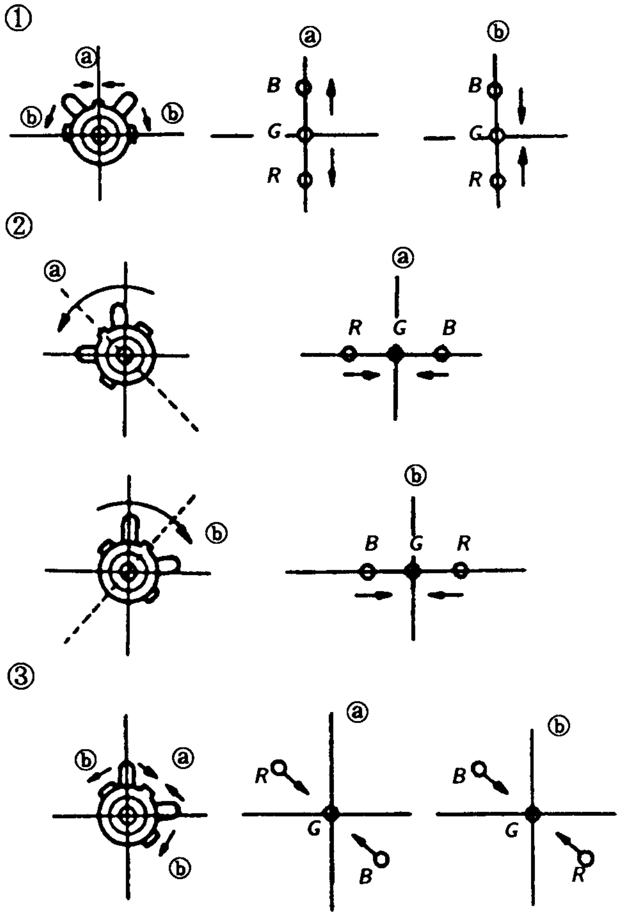


1. (Moving horizontally), adjust the H.STAT control so that the red, green, and blue points are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V.STAT magnet so that the red, green, and blue points are on top of each other at the center of the screen.
3. If the H.STAT variable resistor cannot bring the red, green, and blue points together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V. STAT magnet in the manner given below.
   (In this case, the H.STAT variable resistor and the V.STAT magnet influence each other)

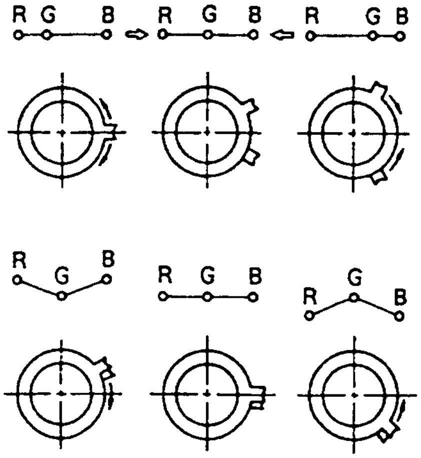
- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.

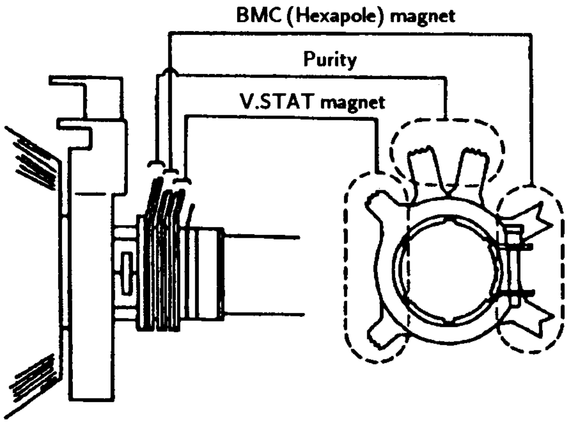


4. If the V.STAT magnet is moved in the direction of the ⓐ and ⓑ arrows, the red, green, and blue points move as shown below.



- Operation of BMC (Hexapole) Magnet





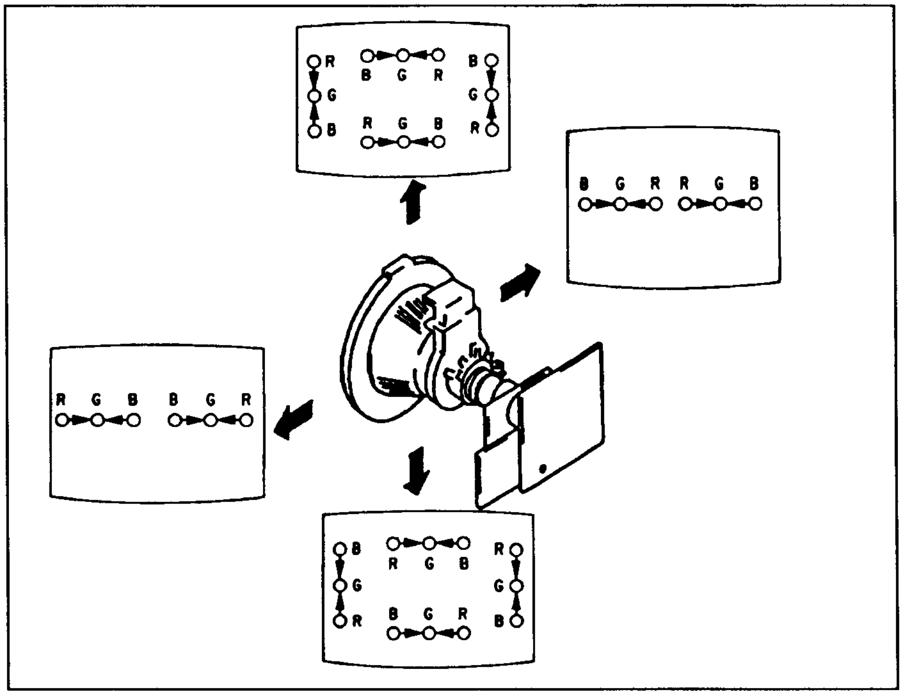
- The respective dot positions resulting from moving each magnet interact, so be sure to perform adjustment while tracking.
  Use the H.STAT VR to adjust the red, green, and blue dots so they coincide at the center of screen (by moving the dots in the horizontal direction).

(2) **Dynamic Convergence Adjustment**

Preparations :

- Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence.

1. Slightly loosen the deflection yoke screws.
2. Remove the deflection yoke spacer.
3. Move the deflection yoke as shown in the figure below and optimize the convergence.
4. Tighten the deflection yoke screws.
5. Install the defelection yoke spacer.



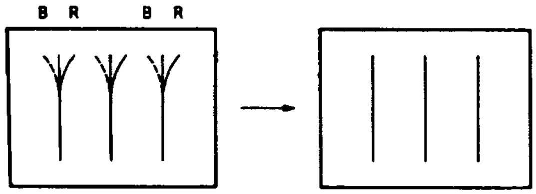
(3) Dynamic Convergence Circuit Adjustment

- Set to Service Mode.
- Input a cross-hatch signal.
- Press [1] and [4] serect an item of adjustments.
- Adjust [3] and [6] to the best picture.

ITEM	REFERENCE DATA	NAME REGISTER	
UYBO	39	VP	U. Y. BOW
LYBO	39	VP	L. Y. BOW
HAMP	26	VP	H. AMP
HTILT	36	VP	H. TILT
UCBO	20	VP	U. C. BOW
UTIL	44	VP	U. TILT
LCBO	31	VP	L. C. BOW
LTIL	63	VP	L. TILT
DCSH	19	VP	DC. SHIFT

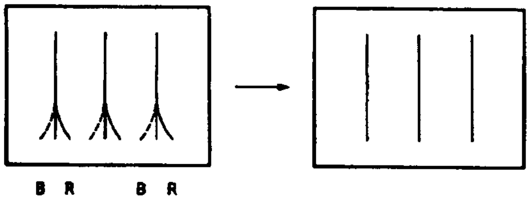
U. YBOW

Select UYBO with [1] and [4]



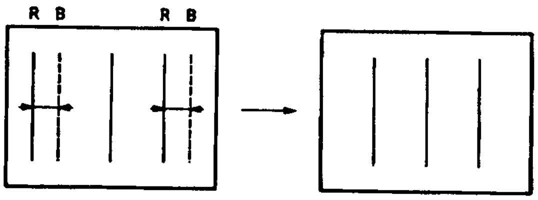
L. YBOW

Select LYBO with [1] and [4]



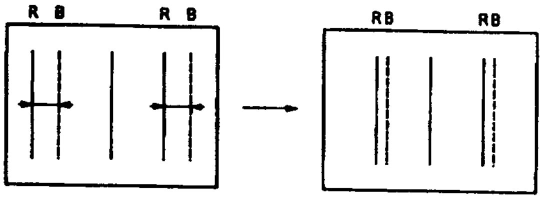
H. AMP

Select HAMP with [1] and [4]



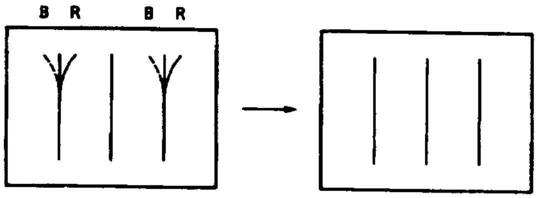
H. TILT

Select HTILT with [1] and [4]



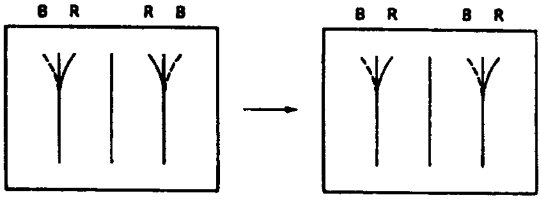
U. CBOW

Select UCBO with [1] and [4]



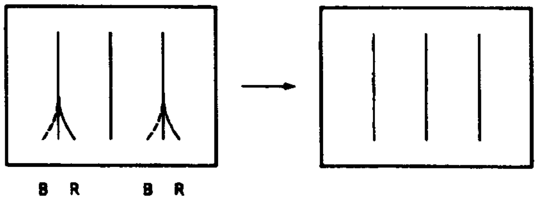
U. TILT

Select UTIL with [1] and [4]



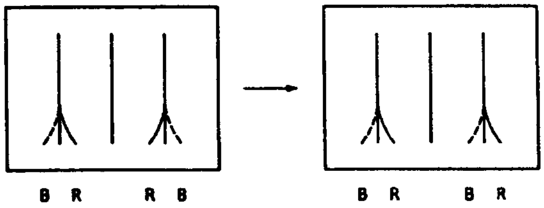
L. CBOW

Select LCBO with [1] and [4]

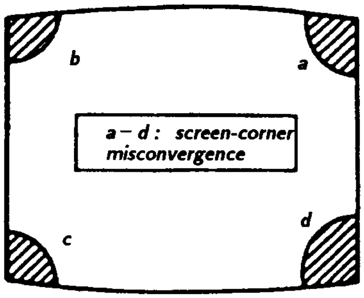


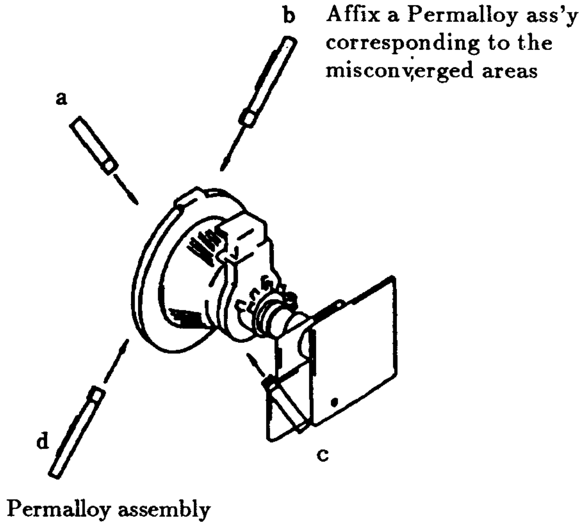
L. TILT

Select L. TIL with [1] and [4]



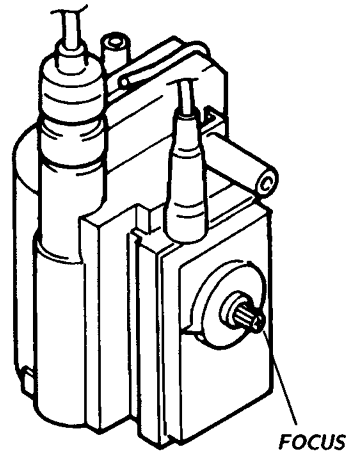
(4) Screen-corner Convergence





3-3. FOCUS ADJUSTMENT

Adjust FOCUS control on the flyback transformer for a best focus.



FLYBACK TRANSFORMER (T 501)

a. AN ITEM OF ADJUSTMENT

ITEM	REFERENCE DATA	NAME REGISTER	
GAMP	19	VP	GREEN AMP.
BAMP	9	VP	BLUE AMP.
GCUT	8	VP	GREEN CUT OFF.
BCUT	6	VP	BLUE CUT OFF
SBRT	40	VP	BRIGHT

b. METHOD OF CANCELLATION FROM SERVICE MODE

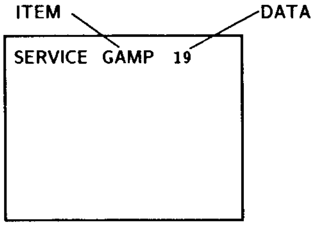
Set the standby condition (Press [POWER] button on the commander) in the next place, press [POWER] button again, hereupon it becomes TV mode.

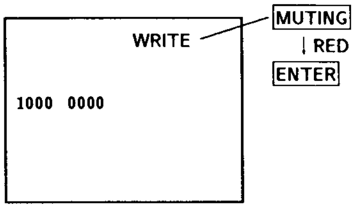
c. METHOD OF WRITE FOR MEMORY

1) Set to Service Mode.
2) Press [1] (UP) and [4] (DOWN), select an item of adjustments.
3) Press [MUTING] button indicate WRITE (RED) on screen.
4) Press [ENTER] button to write for memory.

d. MEMORY WRITE CONFIRMATION METHOD

1) After adjustment, pull out the plug from AC outlet, and next place, plug in AC outlet again.
2) Turn the power switch ON and set to Service Mode.
3) Call the adjusted items again, confirm they were adjusted.





3-4. G2 (SCREEN) AND WHITE BALANCE ADJUSTMENTS

1. G 2 (SCREEN) ADJUSTMENT(RV 701)

1) Set the PICTURE and BRIGHTNESS to normal.
2) Confirm G 1 voltage is within 30.0±5 V.
3) Apply DC voltage of 180 V to the cathodes of R,G and B from DC stabilized power source.
4) While watching the picture, adjust the G2 control (RV 701) to the just the retrace line disappears.

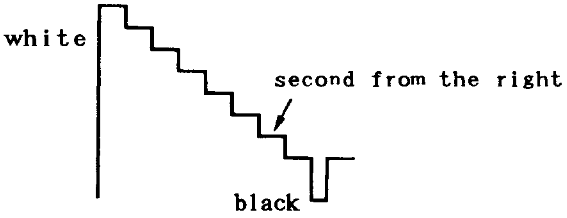
(Using the Remote Commander)

2. WHITE BALANCE ADJUSTMENTS

1) Set to service mode.
2) Press [STANDARD] to normal and if necessaries "TRINITONE" set to "LOW" by [+] or [-].
3) Input an entire white signal.
4) Set the PICTURE to minimum.
5) Select S BRT with [1] and [4], and then set the level to minimum with [3] and [6].
6) Select G CUT and B CUT with [1] and [4]. And adjust the level with [3] and [6] for the best white balance.
7) Set the PICTURE to maximum.
8) Select G AMP and B AMP with [1] and [4], and adjust the level with [3] and [6] for the best white balance.
9) Write into the memory by pressing [MUTING] → then [ENTER].

3. SUB BRIGHT ADJUSTMENT

1) Set to service mode.
2) Input a staircase signal of black and white from the pattern generator.
3) BRIGHTNESS ··· RESET
   PICTURE ········· minimum
4) Select SBRT with [1] and [4], and adjust SUB BRIGHT level with [3] and [6] so that the stripe second from the right is dimly lit.



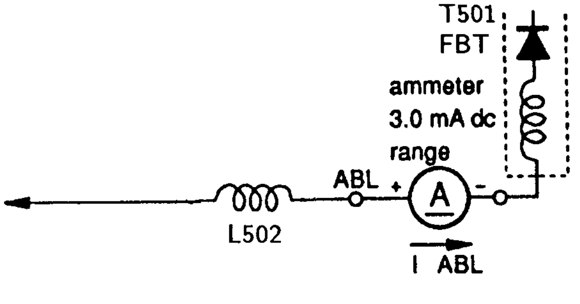
SECTION 4
SAFETY RELATED ADJUSTMENTS

A BOARD

R565 CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components (marked with ◪ on the schematic diagram).
IC502,Q509,Q510,R565,R567,R568,R569

①
1. Preparation before confirmation
   1) Remove R651 on the G board and connect a variable resistor (RV1 : about 10kΩ) between pin ① of IC651 and B+ line.
   2) Supply 120±2.0V AC to with variable auto-transformer.
2. Hold-down operation confirmation
   1) Turn the POWER switch ON, and input an entirely white signals and adjust ABL current to 1910±50μA with PICTURE and BRIGHT etc controls.
   2) Increase B+ line voltage gradually by adjusting the resistor of RV1. Confirm that the minimum voltage is less than 147.0V DC whereby the raster disappears during operation of hold-down circuit.
      NOTE: When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.
   3) Turn the POWER switch ON, and input a dot signals and adjust ABL current to 110±30μA with PICTURE and BRIGHT etc controls.
   4) Increase B+ line voltage gradually by adjusting the resistor of RV1. Confirm that the minimum voltage is lower than 148.5V DC whereby the raster disappears during operation of hold-down circuit.
      NOTE: When the Hold-down circuit starts operating, switch OFF the POWER of the set immediately.
3. Hold-down readjustment
   When step 2 is not satisfied, readjustment should be performed by altering the resistance value of R565 (a component marked with ⧗).



A BOARD

R566 CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components (marked with ◪ on the schematic diagram).
IC502,IC651,Q509,Q510,D502,C531,R554,R566,R567,R568,R569,R651,R1506,T501

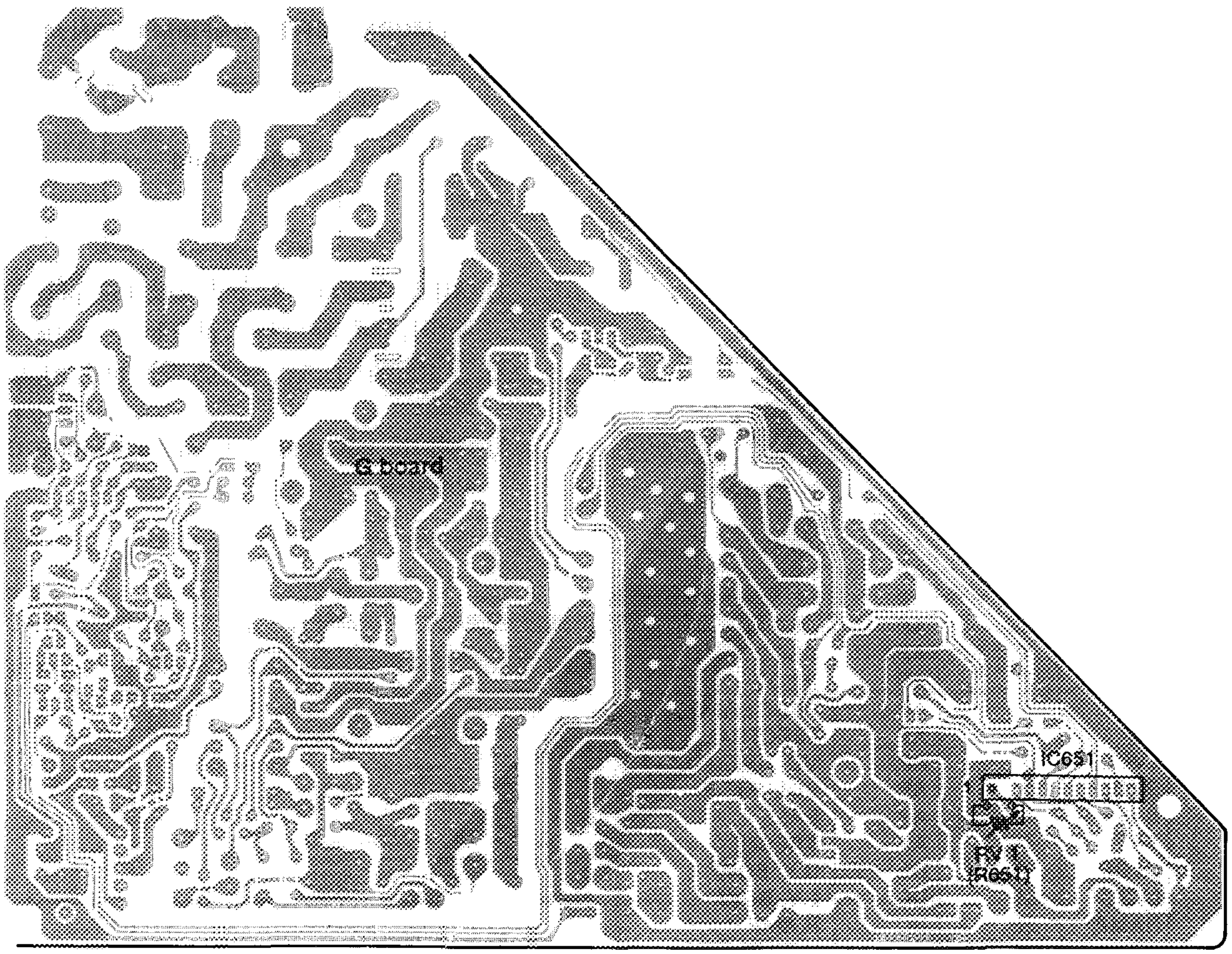
②
1. Preparation before confirmation
   1) Turn the POWER switch ON, and input an entirely white signals and set the PICTURE and BRIGHT controls to maximum.
   2) Confirm that voltage of the check terminal of pin② of A-100 connector is more than 127.0 V DC when the set is operating normally with 120.0± 2.0V AC supply.
2. Hold-down operation confirmation
   1) Turn the POWER switch ON, and input an entirely white signals and set the PICTURE and BRIGHT controls to maximum.
   2) Apply DC voltage of over 130±2.0V DC gradually to the check terminal of pin ② of A-100 connector via 1SS119 from the DC stabilized power source.
      Confirm that the minimum voltage is lower than 149.0V DC whereby the raster disappears during operation of hold-down circuit.
      NOTE: When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.
3. Hold-down readjustment
   When step 2 is not satisfied, readjustment should be performed by altering the resistance value of R566 CARBON 1/4W (a component marked with ⧗).

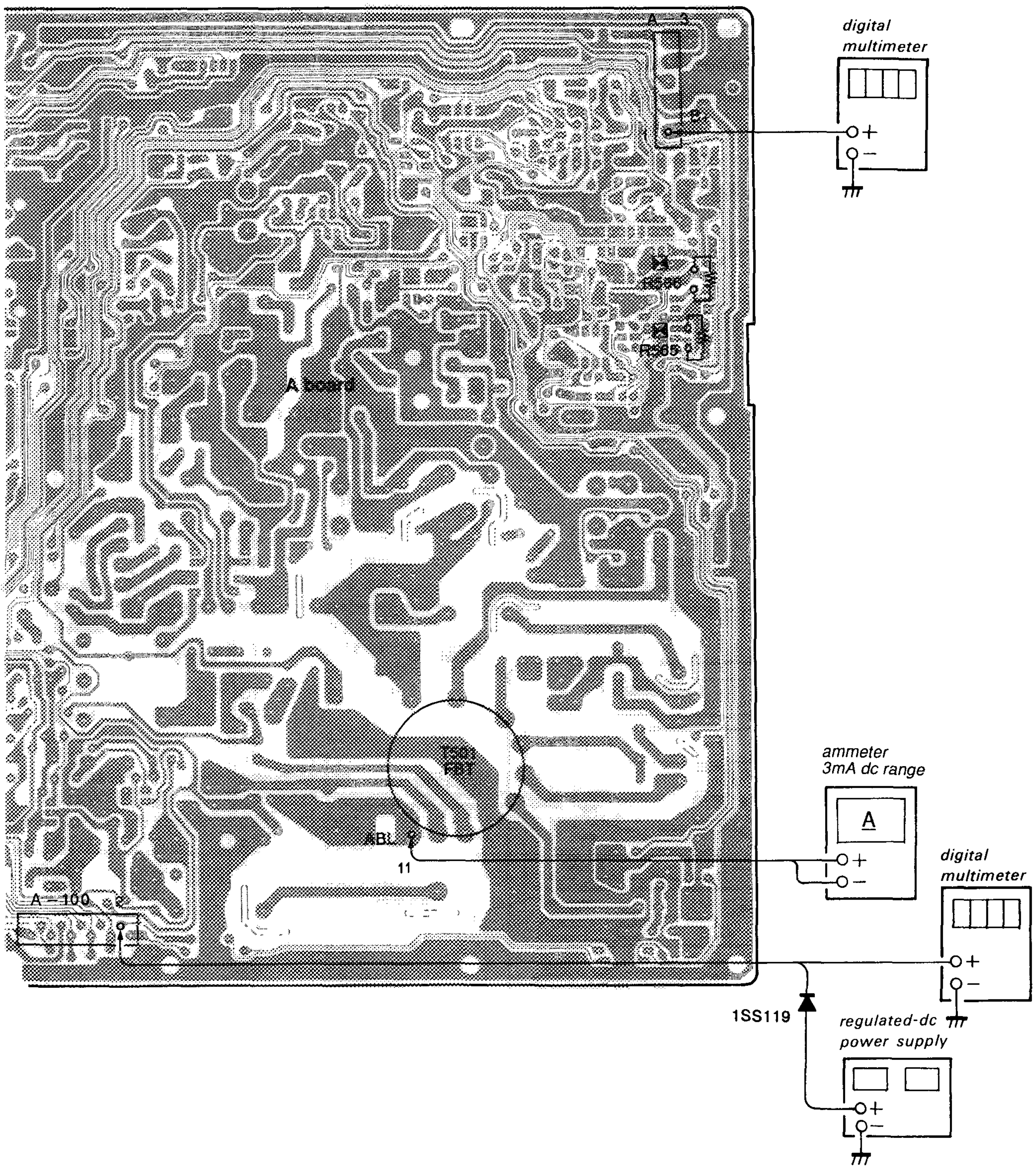
G BOARD

B+ VOLTAGE CONFIRMATION

The following adjustments should always be performed when replacing IC651 and R651.

1) Supply $130 \pm {}^{2}_{0}{}^{0}$V AC to with variable autotransformer.
2) Input an entirely monoscope signal.
3) Set the PICTURE control and the BRIGHT controls in to initial reset.
4) Confirm the voltage of A BOARD ① pin A-3 connecter is less than 136.5V DC.
5) If step 4) is not satisfied, replace IC651 and R651 repeat above steps.




digital
multimeter
A board
R565
T501
FBT
ABL
11
A-100
ammeter
3mA dc range
A
digital
multimeter
1SS119
regulated-dc
power supply

SECTION 5
CIRCUIT ADJUSTMENTS

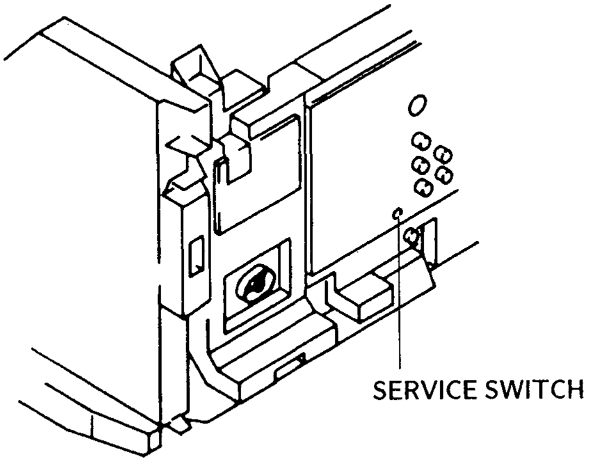
5-1. ELECTRICAL ADJUSTMENT BY REMOTE COMMANDER

Use of Remote Commander (RM-AV1100) can be performed circuit adjustments about this model.

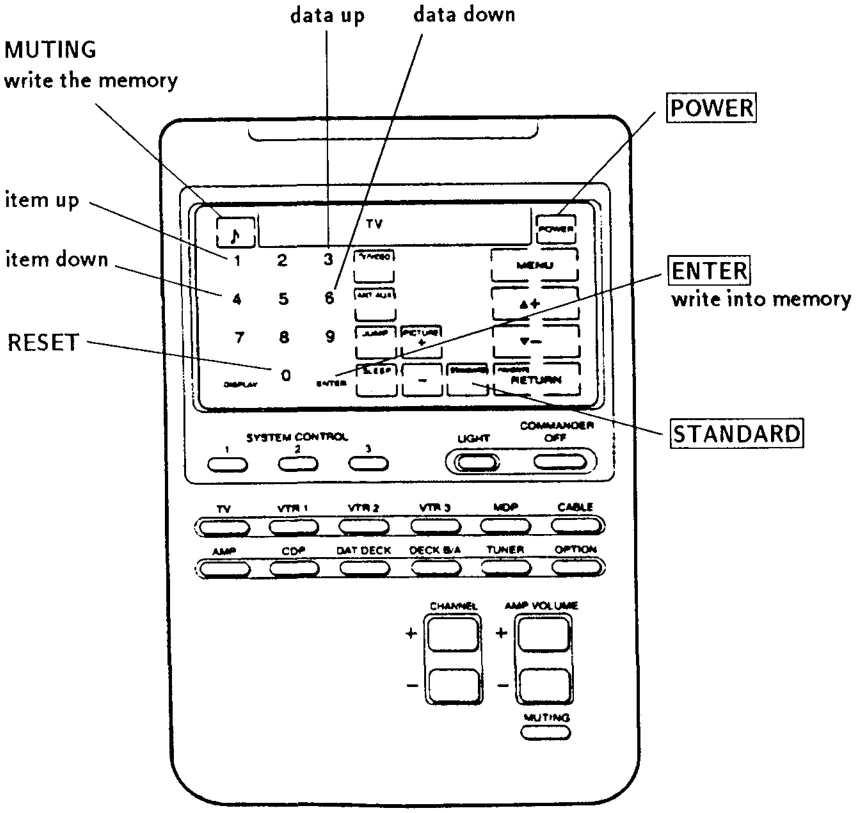
1. METHOD OF SETTING THE SERVICE MODE

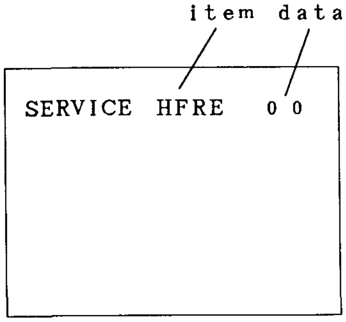
1) Press [POWER] button on the Remote Commander while pressing switch on the rear of the set.

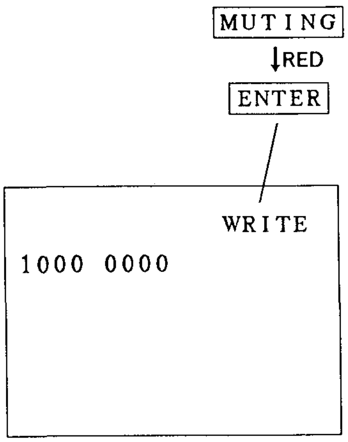
NOTE : Test Equipment Required.
1. Pattern Generator
2. Frequency counter
3. Digital multimeter
4. Audio OSC



2. ADJUST BUTTONS AND INDICATOR







3. AN ITEM OF ADJUSTMENT

ITEM	REFERENCE DATA	NAME	REGIST
AFC	1	VP	AFC 1.0
HFRE	93	VP	H. FREQUENCE
VFRE	15	VP	V. FREQUENCE
VPOS	19	VP	V. SHIFT
VSIZ	32	VP	V. SIZE
VLIN	2	VP	V. LINEARITY
VSCO	3	VP	VS. CORRECTION
HPOS	9	VP	H. PHASE
HSIZ	25	VP	H. SIZE
PAMP	17	VP	PIN. AMP.
CPIN	4	VP	CORNER PIN
PPHA	8	VP	PIN. PHASE
VCOM	2	VP	V. COMP
GAMP	19	VP	GREEN AMP.
BAMP	9	VP	BLUE AMP.
GCUT	8	VP	GREEN CUT OFF.
BCUT	6	VP	BLUE CUT OFF
SPIX	40	VP	PICTURE
SHUE	29	VP	HUE
SCOL	30	VP	COLOR
SBRT	40	VP	BRIGHT
RGBP	28	VP	RGB PICTURE
SHAP	7		SHARPNESS
DISP	35		OUTPUT
VSMO	0	VP	VSMO
REF	2	VP	REF 1.0
ROFF	1	VP	OFF NR
GOFF	1	VP	OFF NG
BOFF	1	VP	OFF NB
ABLM	0	VP	ABLM
DRGB	1	VP	D RGB
YBOW	31	DE	Y BOW
VANG	35	DE	V. ANGLE
HTAP	31	DE	H. TRAP
TEST	0	AP	T
MPX	7	AP	ATT
FILO	31	AP	I 1
DEEM	7	AP	I 2
STEV	31	AP	OSC 1
SAPV	31	AP	OSC 2
PILO	7	AP	PILOT
SEP	31	AP	WIDE BAND
VD	7	AP	SPECTRAL
LVOL	0	AP	VOLUME-L
RVOL	0	AP	VOLUME-R
BASS	7	AP	BASS
TRE	7	AP	TREBLE
UYBO	39	DC	U.Y. BOW
LYBO	39	DC	L.Y. BOW
HAMP	26	DC	H.AMP
HTIL	36	DC	H TILT
UCBO	20	DC	U.C. BOW
UTIL	44	DC	U.TILT
LCBO	31	DC	L.C. BOW
LTIL	63	DC	L.TILT
DCSH	19	DC	DC. SHIFT
NRLE	30		NR LEVEL
DSPP	31		

PHPO, PVPO, PLEV, PFCO
Nothing change for KV-32XBR90S

4. METHOD OF CANCELLATION FROM SERVICE MODE

Set the standby condition (Press [POWER] button on the commander) in the next place, press [POWER] button again, hereupon it becomes TV mode.

5. METHOD OF WRITE FOR MEMORY

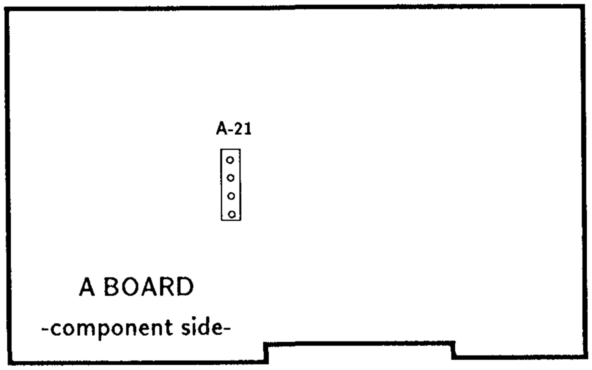
1) Set to Service Mode.
2) Press [1] (UP) and [4] (DOWN), select an item of adjustments.
3) Press [MUTING] button indicate WRITE (RED) on screen.
4) Press [ENTER] button to write for memory.

6. MEMORY WRITE CONFIRMATION METHOD

```
            WRITE
1000 0000
```

1) After adjustment, pull out the plug from AC outlet, and next place, plug in AC outlet again.
2) Turn the power switch ON and set to Service Mode.
3) Call the adjusted items again, confirm they were adjusted.

5-2. A BOARD ADJUSTMENTS



RF AGC ADJUSTMENT(IF BLOCK VR)

1) Input a color-bar signal.
2) Adjust AGC VR of TU 101 so that snow noise and cross-modulation disappear from the picture.
3) Confirm them at every channel.

H.FREQUENCY ADJUSTMENT (HFRE)

1) Set to Service Mode.
2) Input a color-bar signal.
3) Connect a frequency counter to base of Q 507.
4) Call the item of AFC, set to 3 level (free run).
5) Select HFRE with [1] and [4].
6) Adjust [3] and [6] to the 15735± 60 Hz level.
7) Call the item of AFC again, adjust the level" 01 ".
8) Write into the memory by pressing [MUTING] → then [ENTER].

V.FREQUENCY ADJUSTMENT (VFRE)

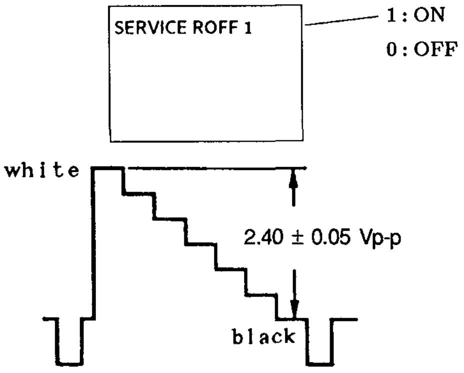
1) Set the Service Mode.
2) Input an off-air signal (VIDEO IN → no signal).
3) Connect the frequency counter across connector VDY − ⊕ of DY-1 connector and ground.
4) Select VFRE with [1] and [4].
5) Adjust [3] and [6] to the 55 ±0.5 Hz.
6) Write the memory by pressing [MUTING] → then [ENTER].

SUB CONTRAST ADJUSTMENT (SPIX)

1) Set to Service Mode.
2) Input a color-bar signal. (75 IRE)
3) Set the conditions as follows.

PICTURE	.... MAX
COLOR	.... MIN
BRIGHT	.... MIN
R OFF	.... ON
G OFF	.... OFF
B OFF	.... OFF

Press [MENU] and select VIDEO MENU → [-] (L) (It becomes minimum).
Select [3] (ON) and [6] (OFF) with [1] and [4].

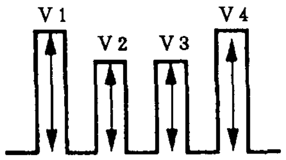


4) Connect an oscilloscope to TP 49 B of C board and ground.
5) Adjust [3] and [6] to the 2.40 ± 0.05Vp-p level by select-ing SPIX with [1] and [4].
6) Write the memory by pressing [MUTING] → then [ENTER].
7) Return the following back to normal after adjustment.

G OFF	.... ON
B OFF	.... ON
COLOR	.... CENTER
BRIGHT	.... CENTER
PICTURE	.... 80%

SUB HUE, SUB COLOR ADJUSTMENT (SHUE, SCOL)

1) Input a color-bar signal.
2) Press [STANDARD] to normal.
3) Set to Service Mode.
4) Connect an oscilloscope to TR 49 R of C board and ground.
5) Adjust [3] and [4] to the V1=V4 and V2=V3 by select to SHUE and SCOL with [1] and [4].

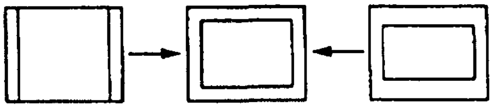


6) Write into the memory by pressing [MUTING] →then [ENTER].

V.SIZE ADJUSTMENT (VSIZ)

1) Set to Service Mode.
2) Press [STANDARD] to normal.
3) Input a cross-hatch signal.
4) Adjust [3] and [6] to the best vertical size by selecting VSIZ with [1] and [4].
5) Write into the memory by pressing [MUTING] →then [ENTER].

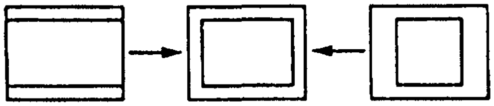
V SIZE (VSIZ)



H.SIZE ADJUSTMENT (HSIZ)

1) Input a cross-hatch signal.
2) Press [STANDARD] to normal.
3) Set to Service Mode.
4) Adjust [3] and [6] to best horizontal size by selecting HSIZ with [1] and [4].
5) Write into the memory by pressing [MUTING] →then [ENTER].

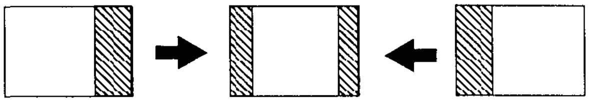
H SIZE (HSIZ)



H.CENTER ADJUSTMENT (H POS)

Note: Perform this adjustment after H.FREQUENCY ADJUSTMENT (HFRE).

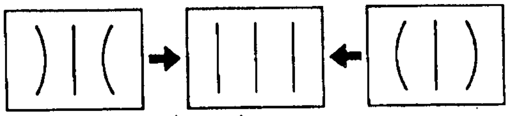
1) Input a color bar signal.
2) Set the Service mode.
3) Select HSIZ with [1] and [4].
4) Press [6] so that the Horizontal size set to min.
5) Adjust A-21 conector position so that both-size branking width of the Raster should be same on the Scrnne.
6) Unplug Set then plug in Set.
7) Set to Service mode.
8) Select HPOS with [1] and [4].
9) Adjust [3] and [6] so that the color bars center should be set to the CRT Screen center position.
10) White into the memory by the pressing [MUTING] → then [ENTER].



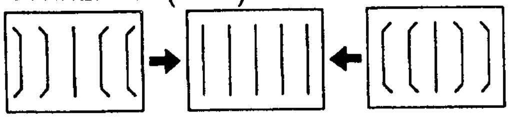
PIN AMP (PAMP), CORNER PIN (CPIN) PIN PHASE (PPHA), H TRAPIZOID (HTRA) V LINEARITY (VLIN), V ANGLE (VANG), VS CORRECTION (VSCO), Y BOW (YBOW), V SHIFT (VPOS), AND V COMP (VCOM) ADJUSTMENTS

1) Input a cross-hatch signal.
2) Press [STANDARD] to normal.
3) Set to Service Mode.
4) Select PAMP, CPIN, PPHA, H TRA, VPOS, VCOM, LVIN, VANG, VSCO and YBOW with [1] and [4].
5) Adjust [3] and [6] to the best picture.
6) Write the memory by [MUTING] → [ENTER].

PIN AMP (PAMP)

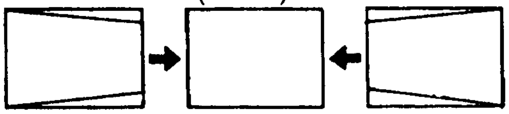


CORNER PIN (CPIN)

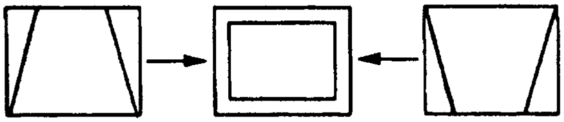


PIN PHASE (PPHA)

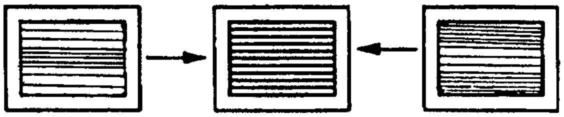
H TRAPIZOIDO (HTRA)



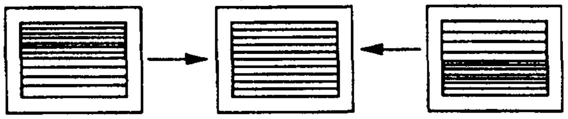
V-SHIFT (VPOS)



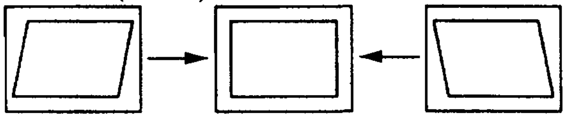
V COMP (VCOM)



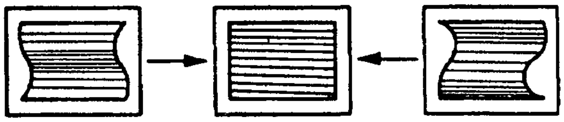
V LINEARITY (VLIN)



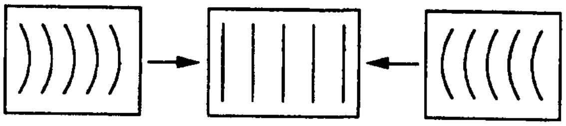
V ANGLE (VANG)



VS CORRECTION (VSCO)

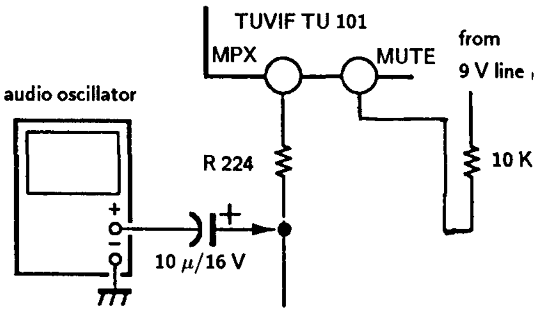


Y BOW (Y BOW)



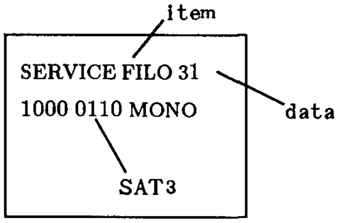
FILTER ADJUSTMENT (MPX, FILO)

1) Set to Service Mode.
2) Select to [TEST] with [1] and [4], set the data to "1". Then select MPX and change data to "08".
3) Connect an audio oscillator to R224 using a capacitor (10μ F/16V), set frequency to 62.936 kHz$\pm$0.1 kHz.
   And then, through the 10kΩ resistor, feed 9.0V into the mute of TUVIF TU 101.



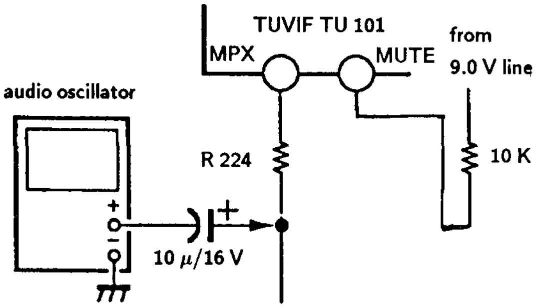
V 4 fh : SINE-WAVE 62.936 KHz$\pm$0.1 KHz
LEVEL 3.0 Vp-p

4) Make the data "00" by selecting FILO with [1] and [4] And then, send up the data gradually by pressing [6]. Set the data to D1 before SAT3 changing to 1 from 0.
5) Send up the data gradually. Set data D2 when SAT3 changes 0 from 1.
6) Adjust the data of FILO to $\frac{D1+D2}{2}$.
7) Write into the memory by pressing [MUTING] → then [ENTER].



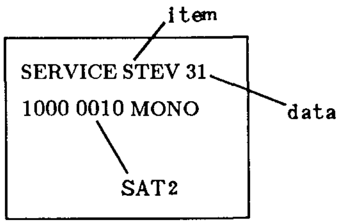
ST VCO ADJUSTMENT (MPX, STEV)

1) Set to Service Mode.
2) Select TEST with [1] and [4], set the data to "1". And then press [MTS] to MONO.
3) Select MPX, set the data "8".
4) Connect an audio oscillator to R 224 using electrolytic capacitor (10μ F/16V) and appply the frequency V_{ST}. Then, apply DC voltage to mute of TUVIF TU 101 using 10kΩ connect to 9.0 V line.



Vfh : SINE-WAVE 15.734 KHz$\pm$0.1 KHz
LEVEL 0.28 Vp-p

5) Select STEV with [1] and [4], set the data to "00" with [6]. And then, send up the data gradually. Set the data to D1 before SAT2 changes from 0 to 1.
6) Send up data gradually, set the data to D2 when SAT2 changes 1 from 0.
7) Adjust the data of STEV to
8) Write into the memory by pressing [MUTING] → then [ENTER].



MPX IN LEVEL ADJUSTMENT (MPX)

1) Set to Service Mode.
2) Select TEST with [1] and [4], set the data to "0" with [6]. And then press [MTS] to MONO.
3) Select MPX with [1] and [4], set the data to "08" with [3] and [6].
4) Write into the memory by pressing [MUTING] → then [ENTER].

PILOT CANCEL ADJUSTMENT (PILO)

1) Set to the Service Mode.
2) Select PILO with [1] and [4], set the data to "08" with [3] and [6].
3) Write into the memory by pressing [MUTING] → then [ENTER].

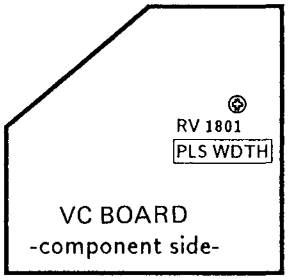
SAP VCO f_0 ADJUSTMENT (SAPV)

1) Set to Service Mode.
2) Input a stereo broadcast signal with SAP.
3) Select TEST with [1] and [4], set the data to "0". And then, press [MTS] to MAIN.
4) Connect a digital multimeter to TP-1(DBX). This voltage reading will equal V 1.
5) Press MTS to SAP and this voltage will equal V 2.
6) Select SAPV with [1] and [4], adjust [3] and [6] so that V 2=V 1±0.03 VDC.
7) Write the memory by [MUTING] → [ENTER].

SEPARATION ADJUSTMENT (SEP)

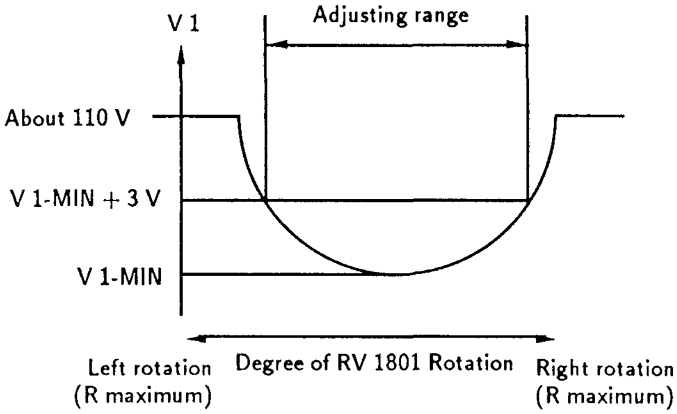
1) Set to Service Mode.
2) Press [MTS] to MAIN and receive a monoral broad-cast signal.
   In the next step, receive a stereo broadcast signal.
3) Select SEP and VD with [1] and [4], adjust [3] and [6] so that a clear stereo sound is effected.

5-3. VC BOARD ADJUSTMENT



DRIVE PULSE PHASE ADJUSTMENT (RV 1801)

1) While measuring the voltage V 1 at both edges of C 1809, rotate RV 1801 so that it becomes minimum. The adjusting range is from (the voltage at which V 1 becomes minimum) V 1 MIN to 3 V, which means, adjust to between V 1 MIN to V 1 MIN + 3 V.



MEMO

KV-32XBR90S RM-AV1100 KV-32XBR90S RM-AV1100

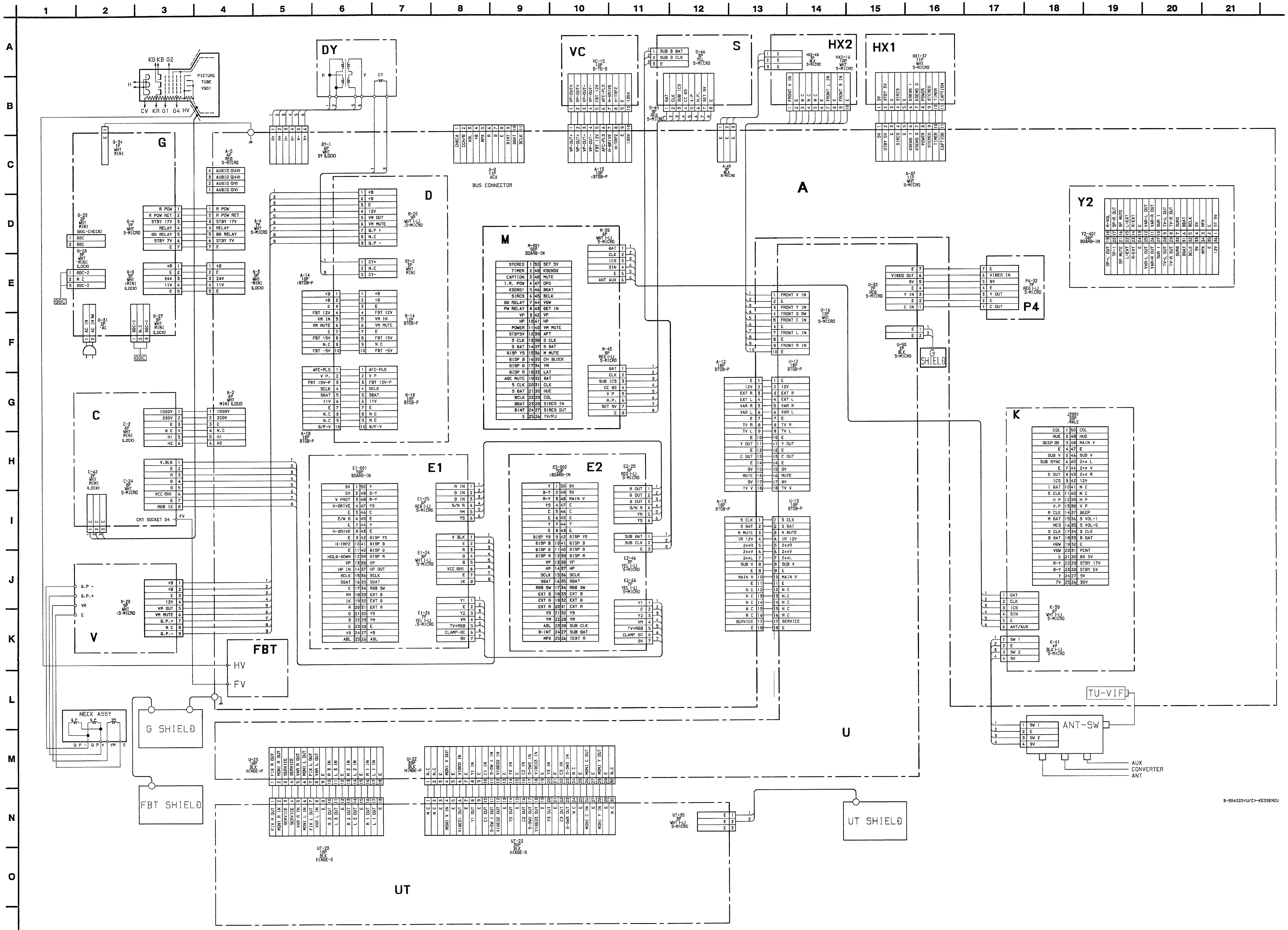
SECTION 6 DIAGRAMS

6-1. BLOCK DIAGRAMS (1)

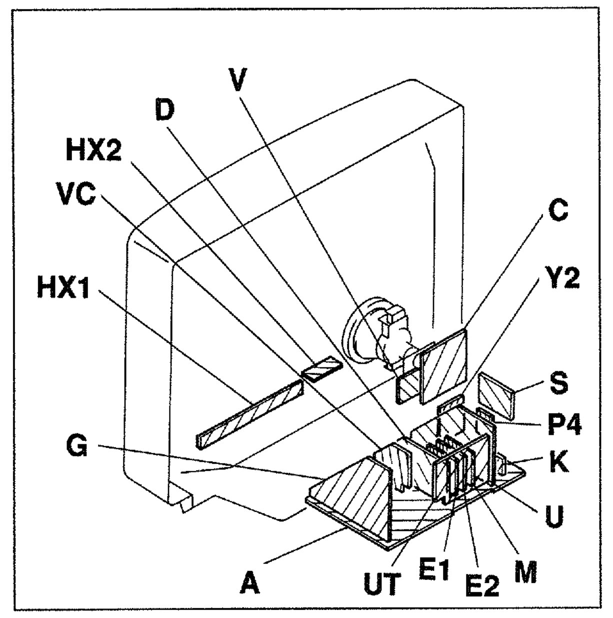
6-2. BLOCK DIAGRAMS (2)

6-3. BLOCK DIAGRAMS (3)

6-4. FRAME SCHEMATIC DIAGRAM



6-5. CIRCUIT BOARDS LOCATION



6-6. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

- Conductor Side -

Note:

- All capacitors are in μF unless otherwise noted.
  pF: μμF 50WV or less are not indicated except for electrolytic and tantalums.
- All electrolytics are in 50V unless otherwise specified.
- All resistors are in ohms.
  KΩ = 1000Ω, MΩ = 1000KΩ
- Indication of resistance, which does not have one for rating electrical power, is as follows.

  Pitch: 5 mm
  Rating electrical power 1/4W

- Chips resistors are 1/10W.
- [-w-]: nonflammable resistor.
- △: internal component.
- [ ]. panel designation, and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ⊥: earth-ground.
- ⏚: earth-chassis.
- The components identified by ⧓ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
  Should replacement be required, replace only with the value originally used.
- When replacing components identified by ◢ mark the necessary adjustments indicated. If results do not meet the specified value, change the component identified by ⧓ and repeat the adjustment until the specified value is achieved.
  (Refer to R565 and R566 on page 51-53 in the Service Manual.)
- When replacing the part in below table be sure to parform the related adjustment.

Part replaced (◢)	Adjustment (⧓)
IC502, Q509, Q510, R565, R567, R568, R569	R565 (HOLD-DOWN)
IC502, IC651, Q509, Q510, D502, C531, R554, R566, R567, R568, R569, R651, R1506, T501	R566 (HOLD-DOWN)

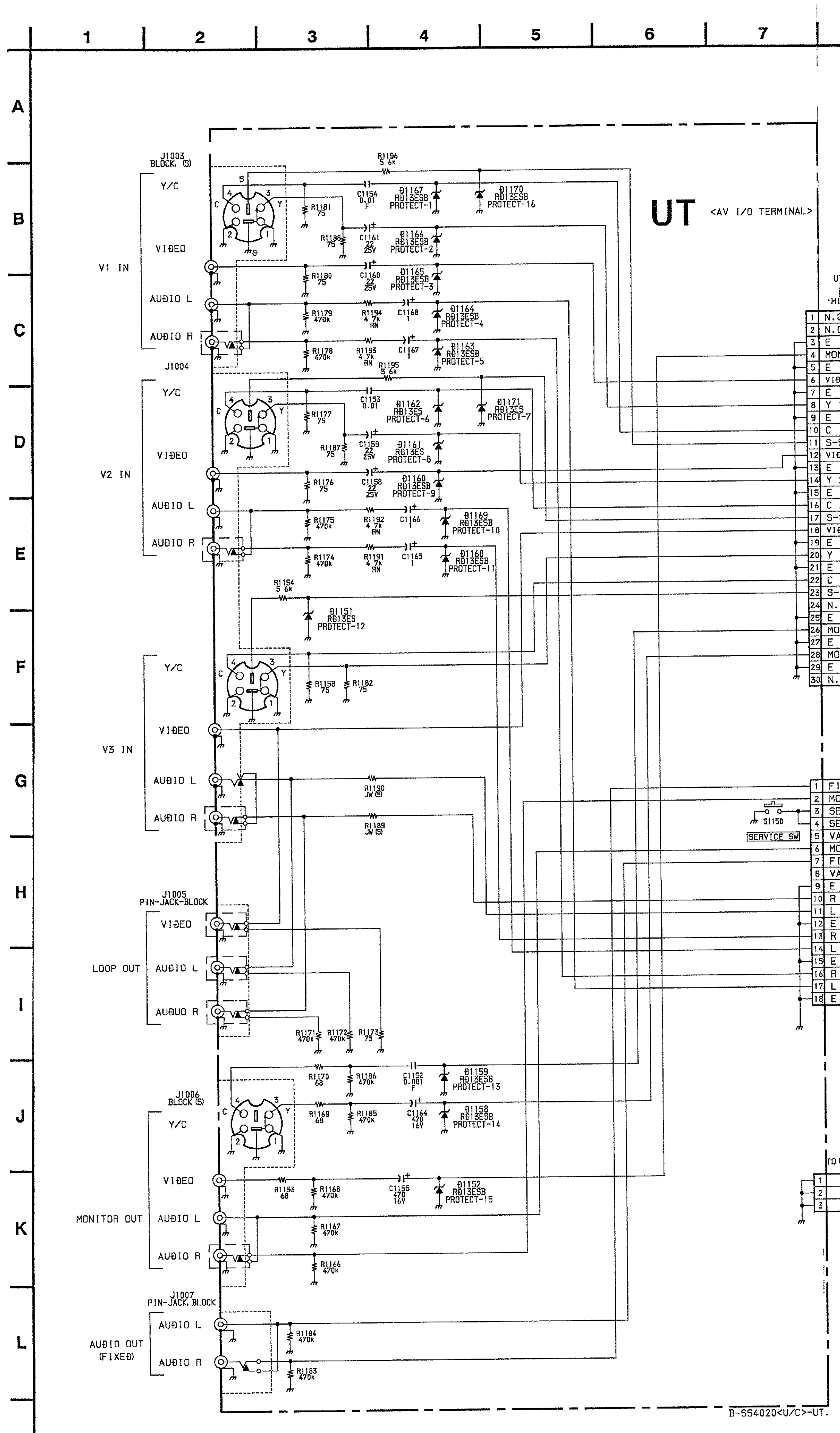
- Readings are taken with a color-bar signal input
- Readings are taken with a 10 MΩ digital multimeter.
- Voltage are dc with respect to ground unless otherwise noted
- Voltage variations may be noted due to normal production tolerance
- All voltages are in V
- ▬▬▬ B+ bus
- ▪▪▪▪▪ B- bus
- ‚ ‚ signal path

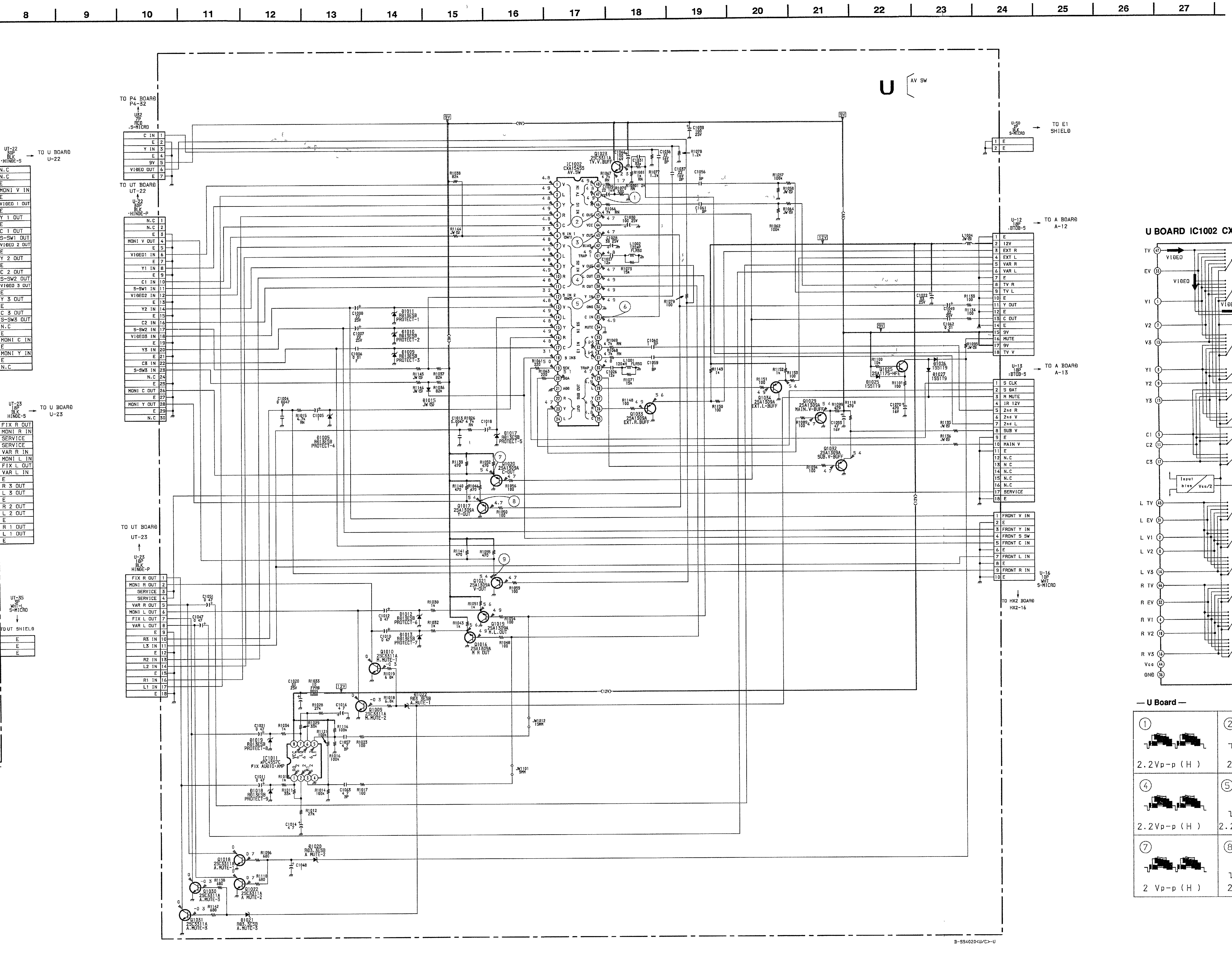
Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: ※	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

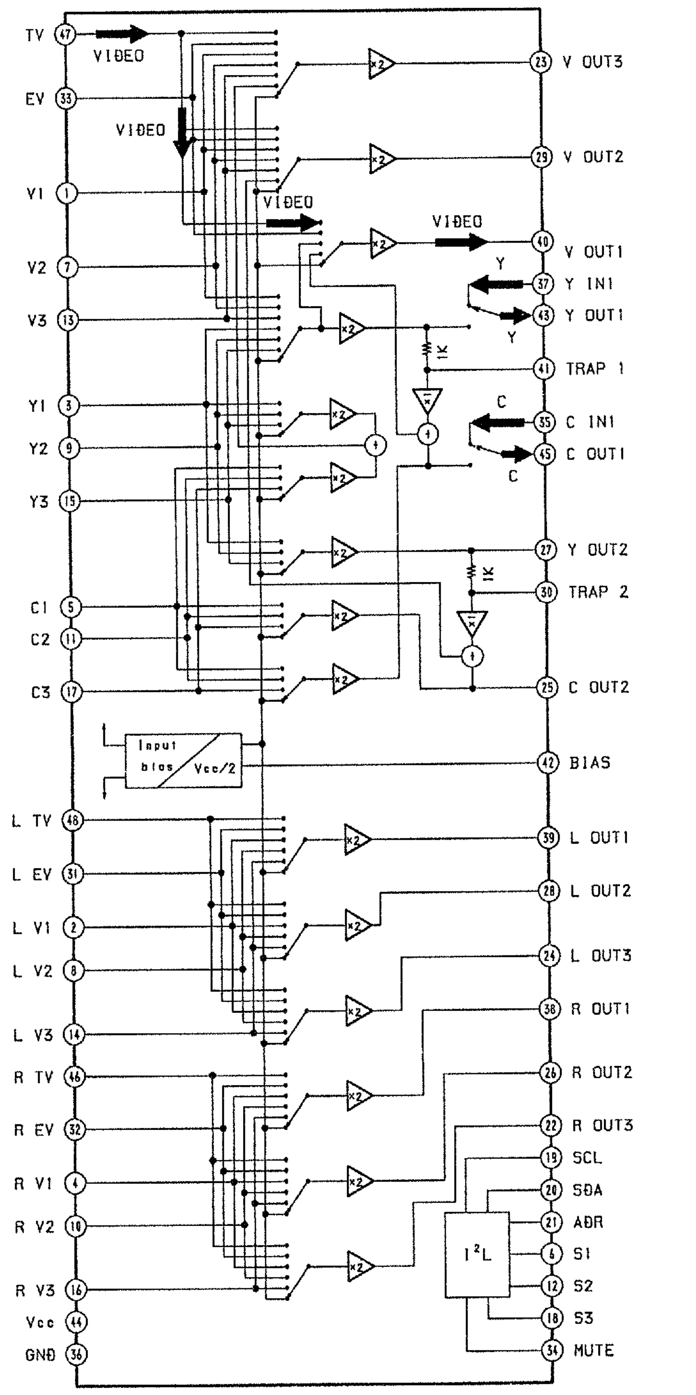
Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

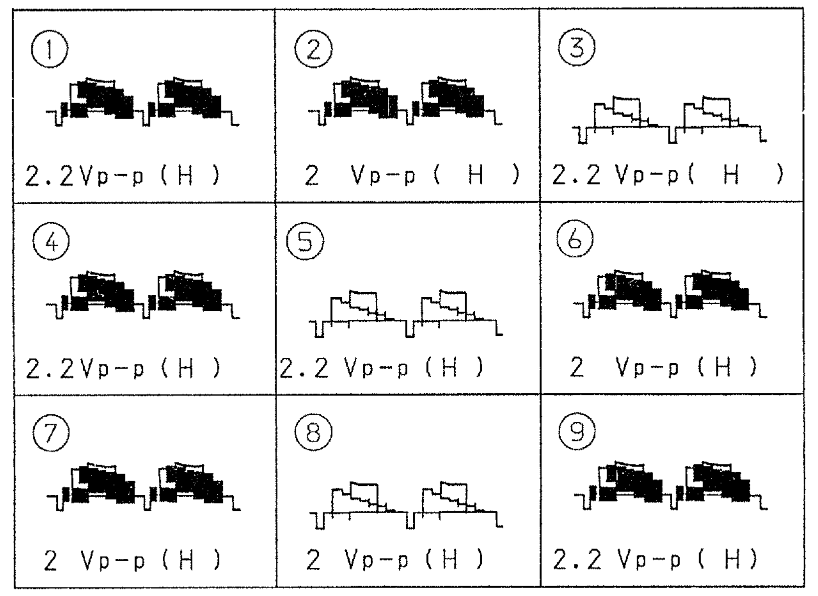




U BOARD IC1002 CXA1545S

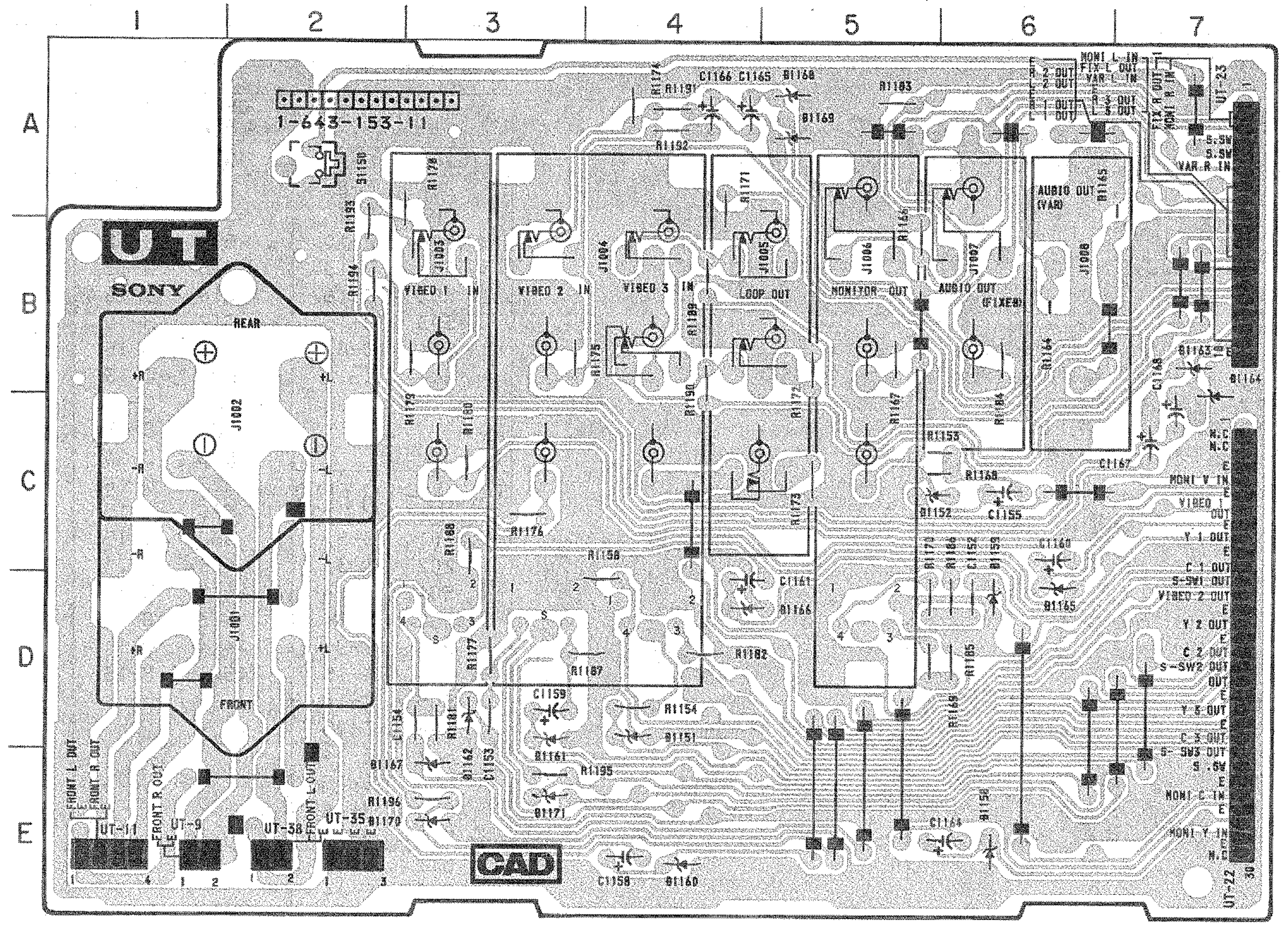


— U Board —



UT [AV I/O TERMINAL]

— UT Board —

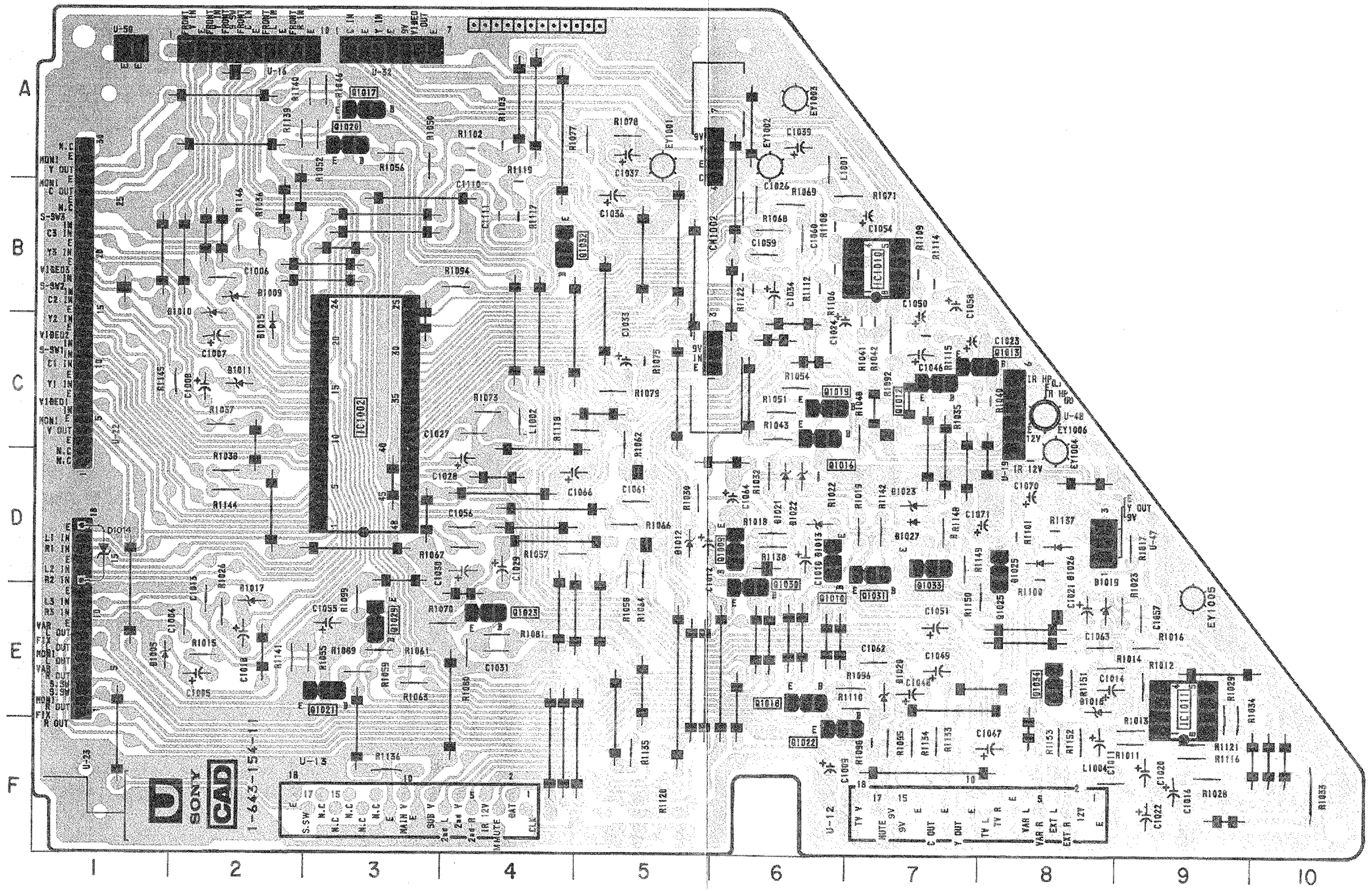


— UT Board —

DIODE	
D1151	D-4
1152	C-5
1158	E-6
1159	D-6
1160	E-4
1161	D-3
1162	D-3
1163	B-7
1164	B-7
1165	D-6
1166	D-4
1167	E-3
1168	A-5
1169	A-5
1170	E-3
1171	E-3

U [AV SW]

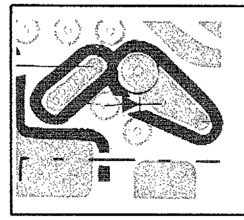
— U Board —



— U Board —

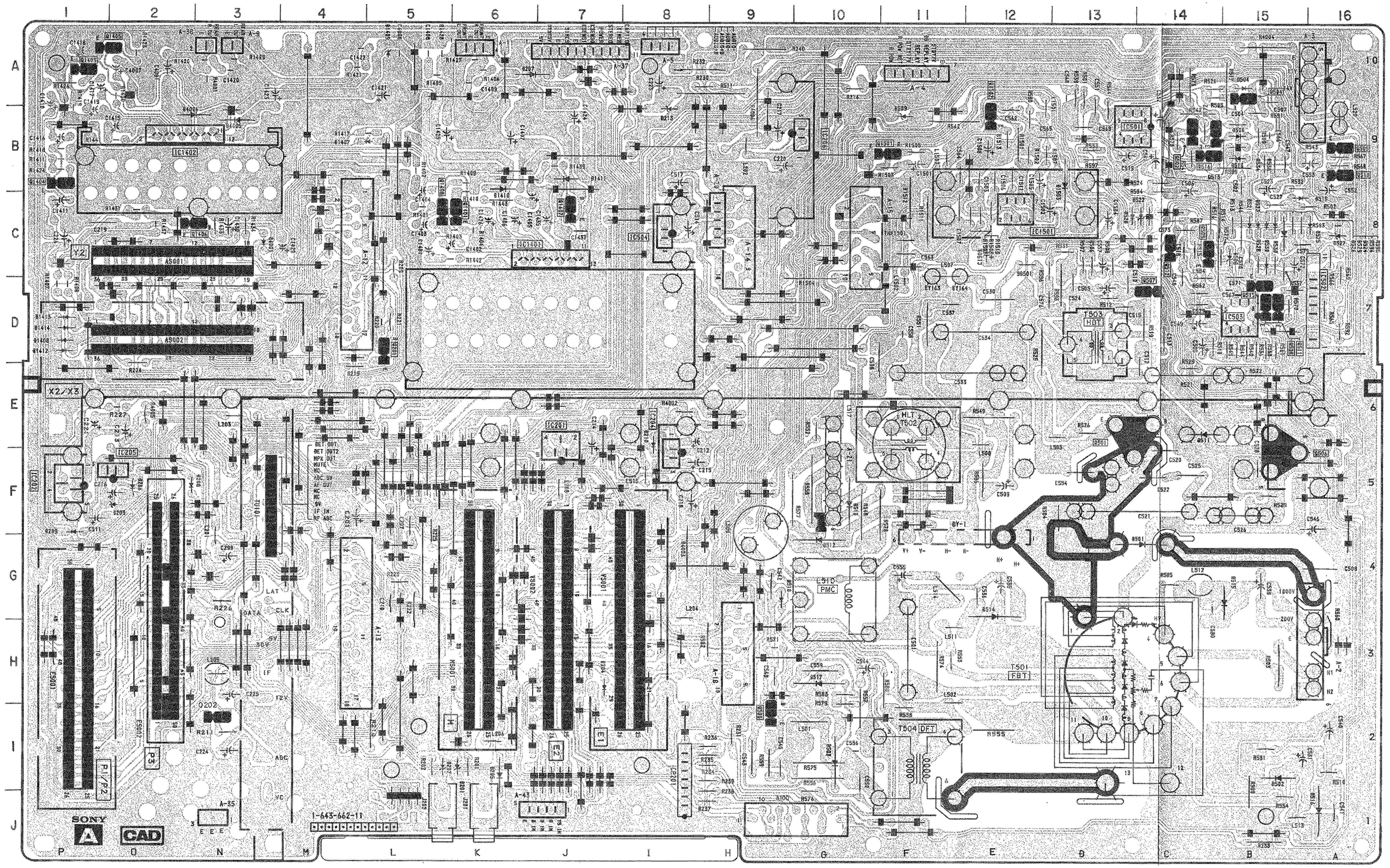
IC	
IC1002	C-3
1011	E-9
TRANSISTOR	
Q1009	D-6
1010	D-6
1016	C-6
1017	A-3
1018	E-6
1019	C-6
1020	A-3
1021	E-3
1022	F-6
1023	E-4
1025	D-8
1029	E-3
1030	D-6
1031	D-7
1032	B-4
1033	D-7
1034	D-7
DIODE	
D1005	E-1
1009	B-2
1010	B-2
1011	C-2
1012	D-5
1013	D-6
1014	D-1
1017	E-2
1018	E-8
1019	E-8
1020	E-7
1021	D-6
1022	D-6
1025	D-8
1026	D-8
1027	D-7

A TUNER-VIF/SIF, HIGH VOLTAGE CIRCUIT
H/V DEFLECTION, X-RAYS.PROT
H.PIN CORR



NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

— A Board —

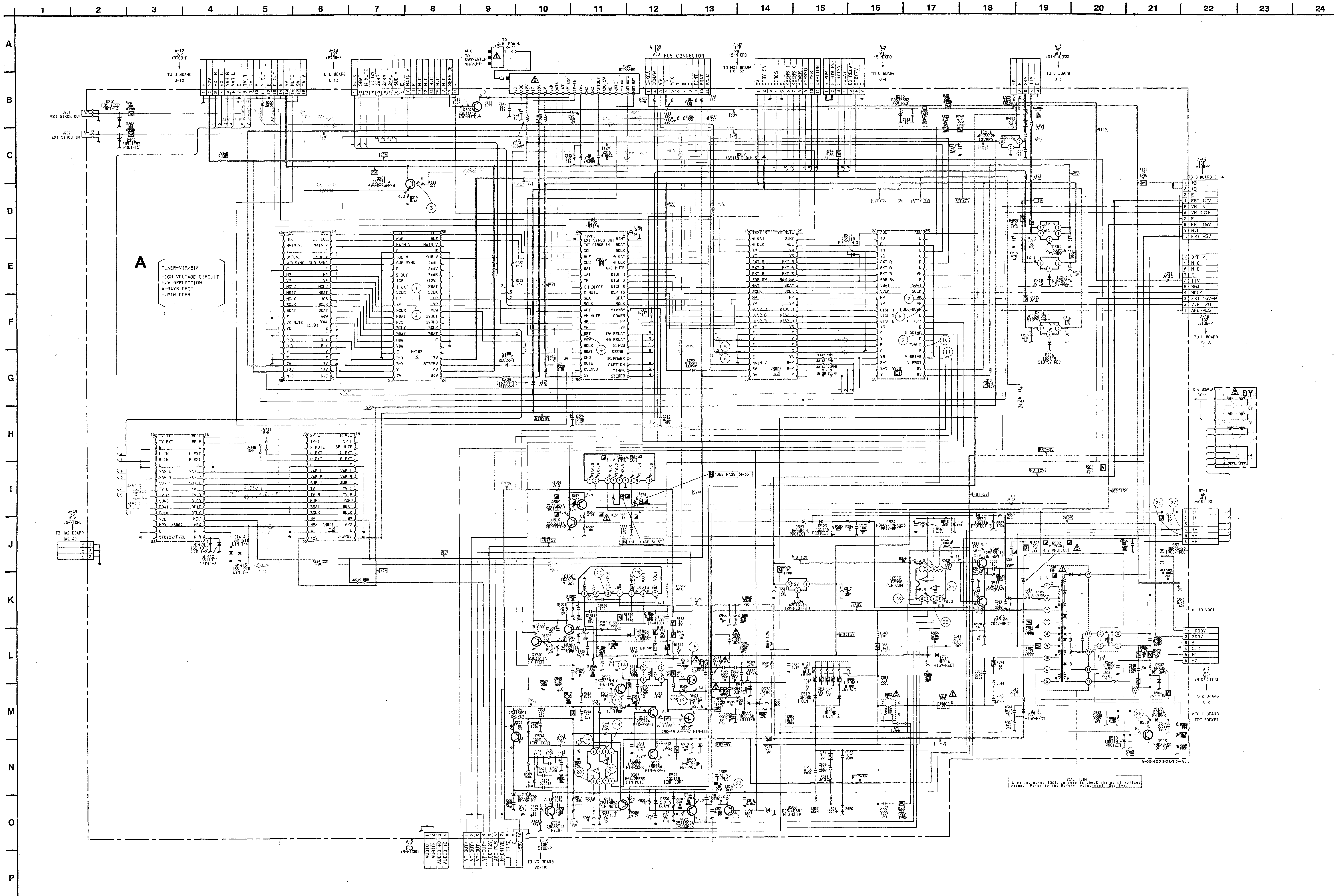


— A Board —

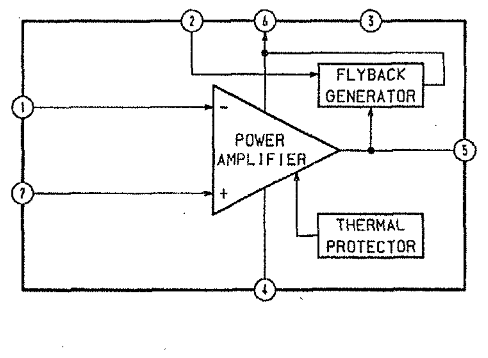
IC	
IC201	E-7
204	F-8
205	F-2
206	B-10
501	B-13
502	D-16
503	D-15
504	C-8
1501	C-12

TRANSISTOR	
Q201	D-5
202	I-3
501	E-13
502	B-14
503	I-9
504	A-15
505	C-14
506	E-15
507	D-14
508	D-15
509	B-16
510	B-16
511	D-15
512	C-14
513	B-14
515	D-15
516	B-14
1501	B-11
1502	B-12

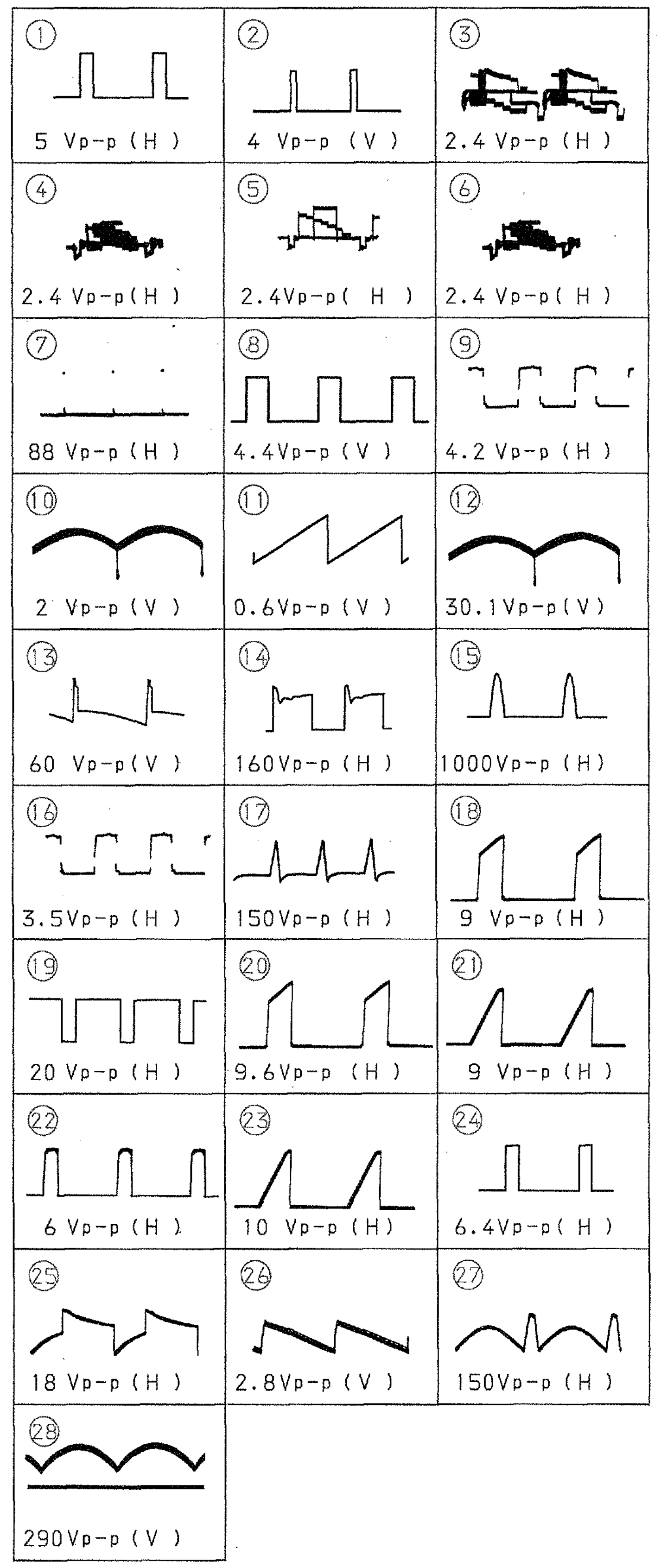
DIODE	
D201	I-6
202	I-5
204	H-7
205	I-6
206	A-2
207	F-6
208	F-2
209	F-1
213	A-8
501	G-14
502	I-5
503	I-10
504	A-15
506	B-15
508	C-15
D509	B-11
510	G-9
511	E-14
512	G-10
513	F-10
514	G-12
515	G-15
516	J-16
517	H-10
518	B-15
521	C-15
522	C-14
524	C-15
525	C-16
527	C-16
529	C-15
530	C-15
1408	D-1
1412	D-1
1413	D-1
1414	D-1
1503	B-13



A BOARD IC1501 TDA8179



— A Board —

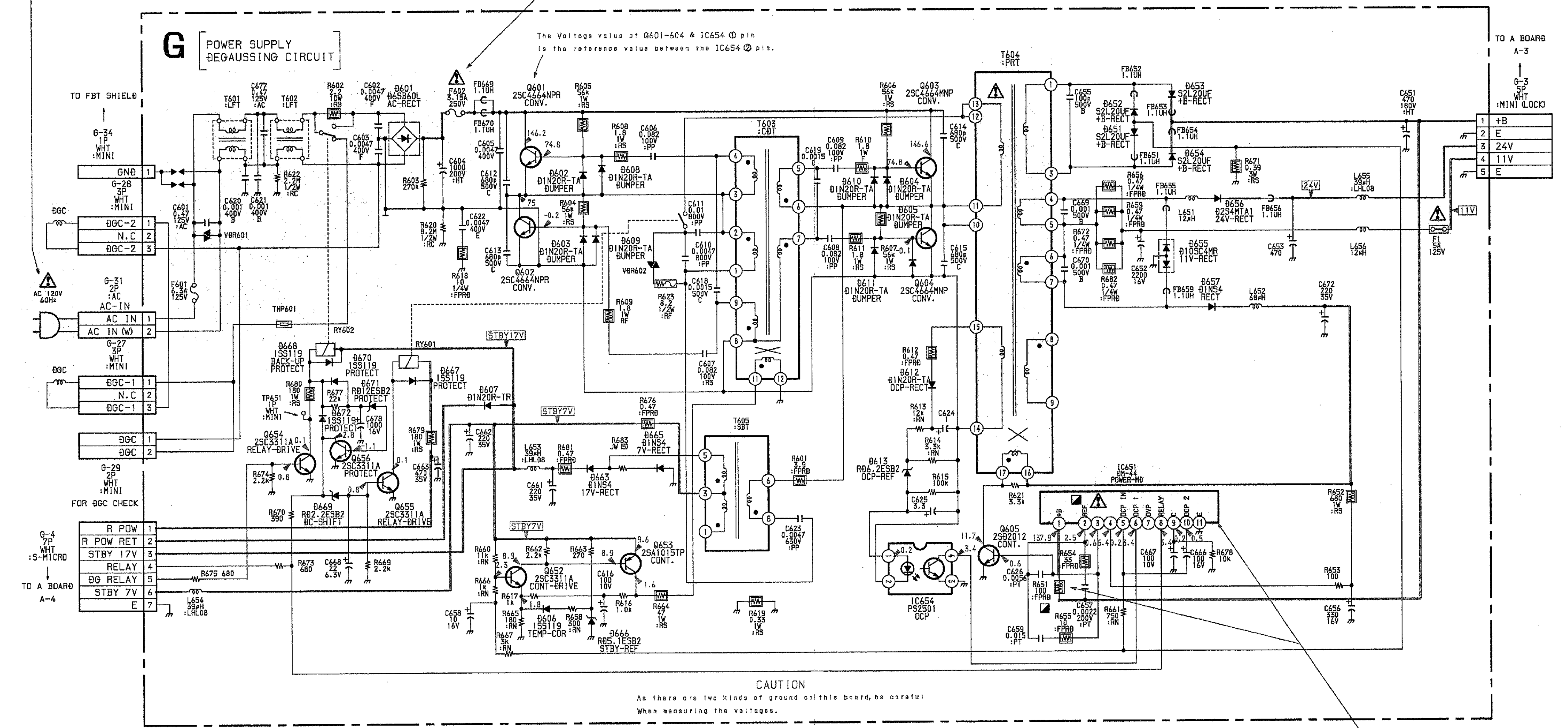


CAUTION (US MODEL ONLY)
This set is equipped with a polarized ac power cord plug (one blade of the plug is wider than the other). When replacing the ac power cord, be sure to connect it with specified part number as shown in this diagram.

CAUTION
When taking a broken fuse (F602) off, discharge across C604 to avoid shock hazard.

G [POWER SUPPLY DEGAUSSING CIRCUIT]

The Voltage value of Q601-604 & IC654 ① pin is the reference value between the IC654 ② pin.

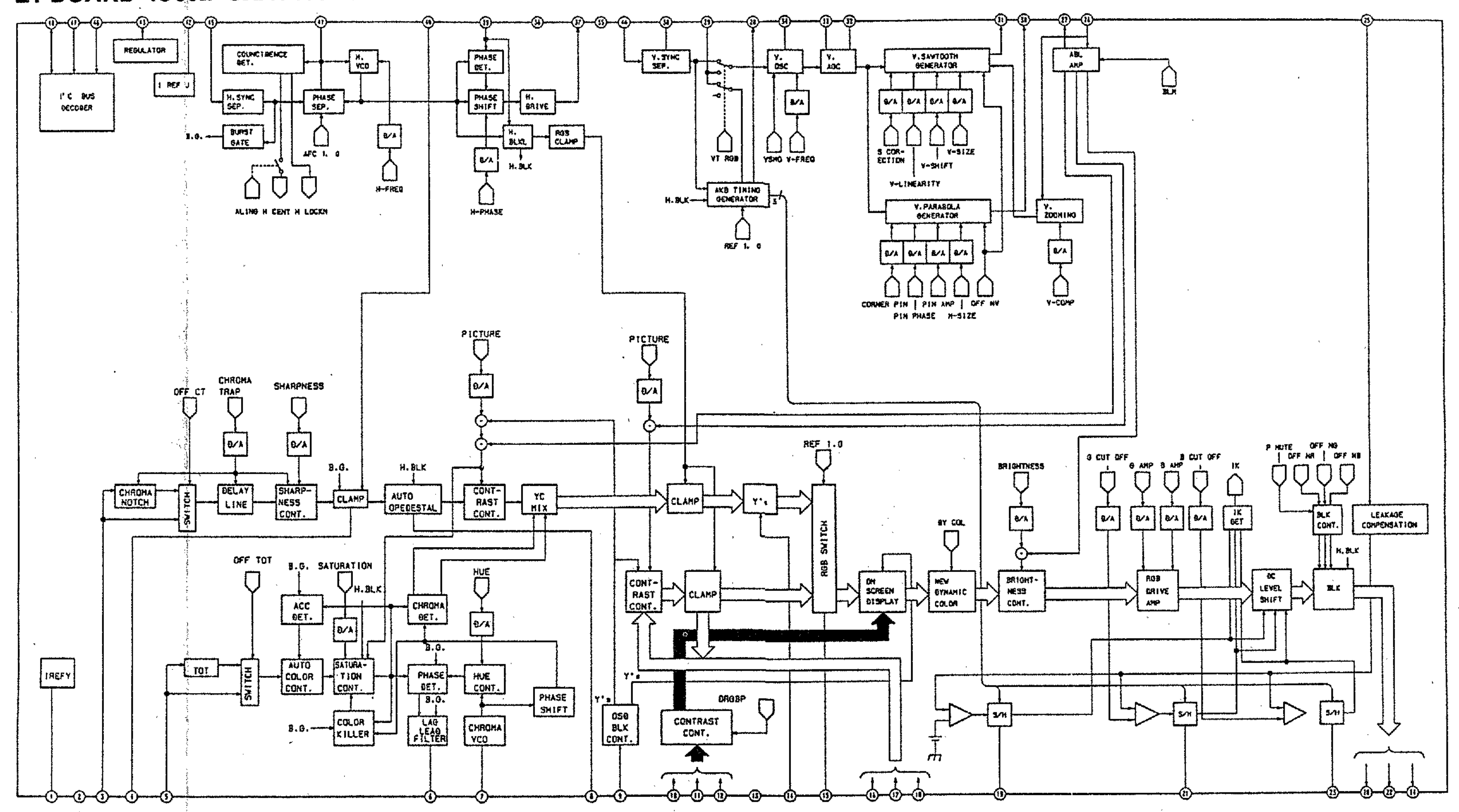


CAUTION
As there are two kinds of ground on this board, be careful when measuring the voltages.

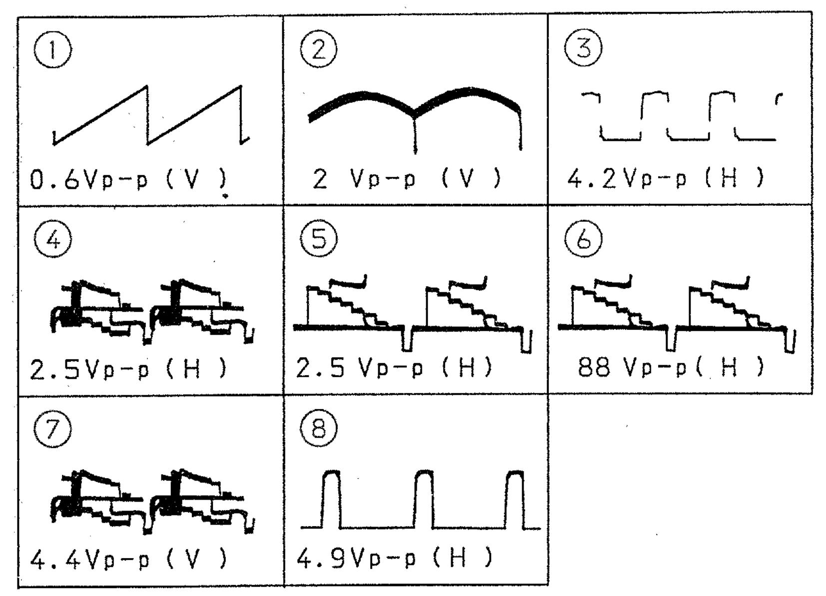
B-SS4020<U/C>-G..

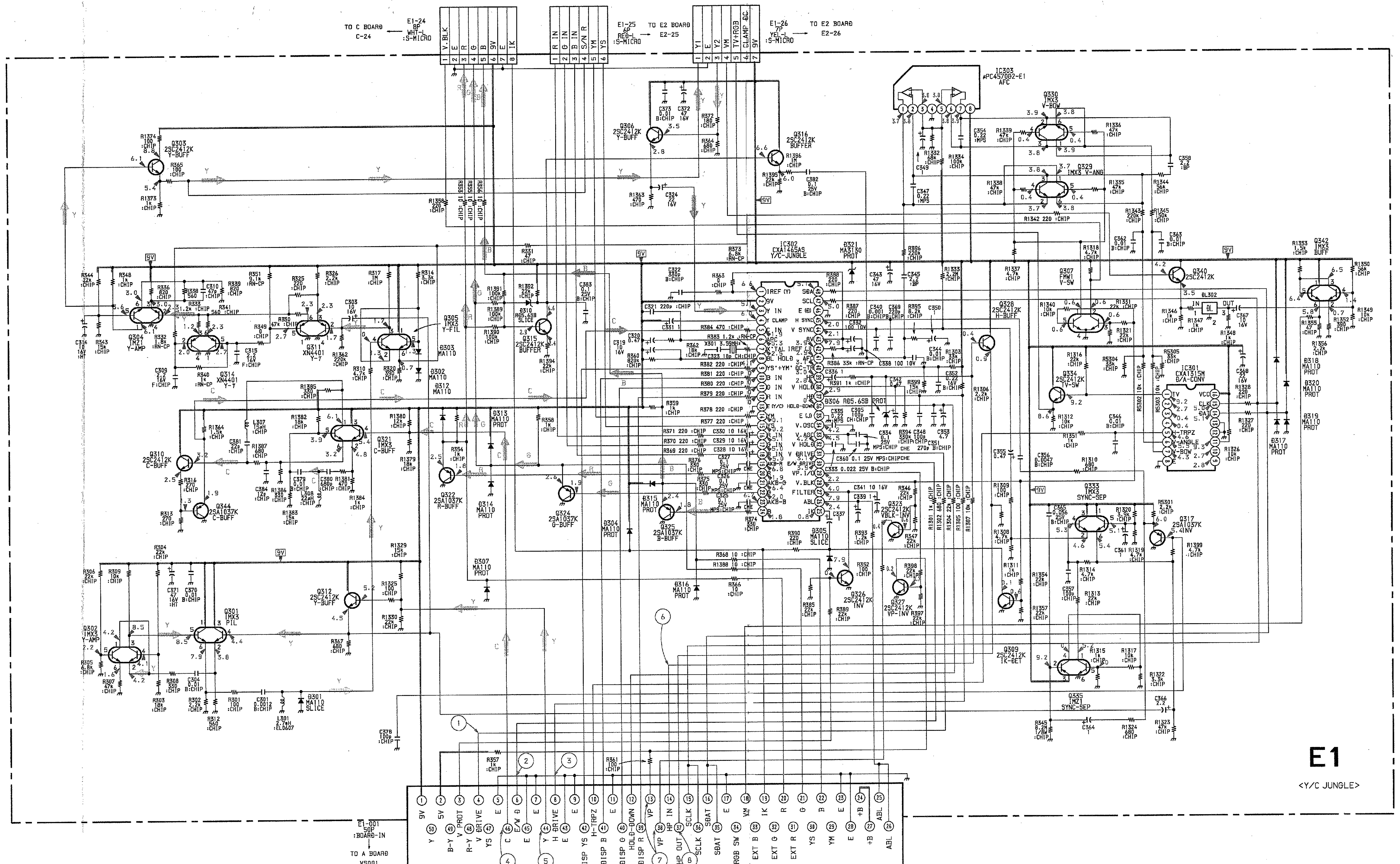
CAUTION
When replacing IC651 and R651, be sure to check the B+ line voltage value. Refer to the Safety Adjustment Section.: SEE PAGE 51-53

E1 BOARD IC302 CXA1465AS



— E1 Board —





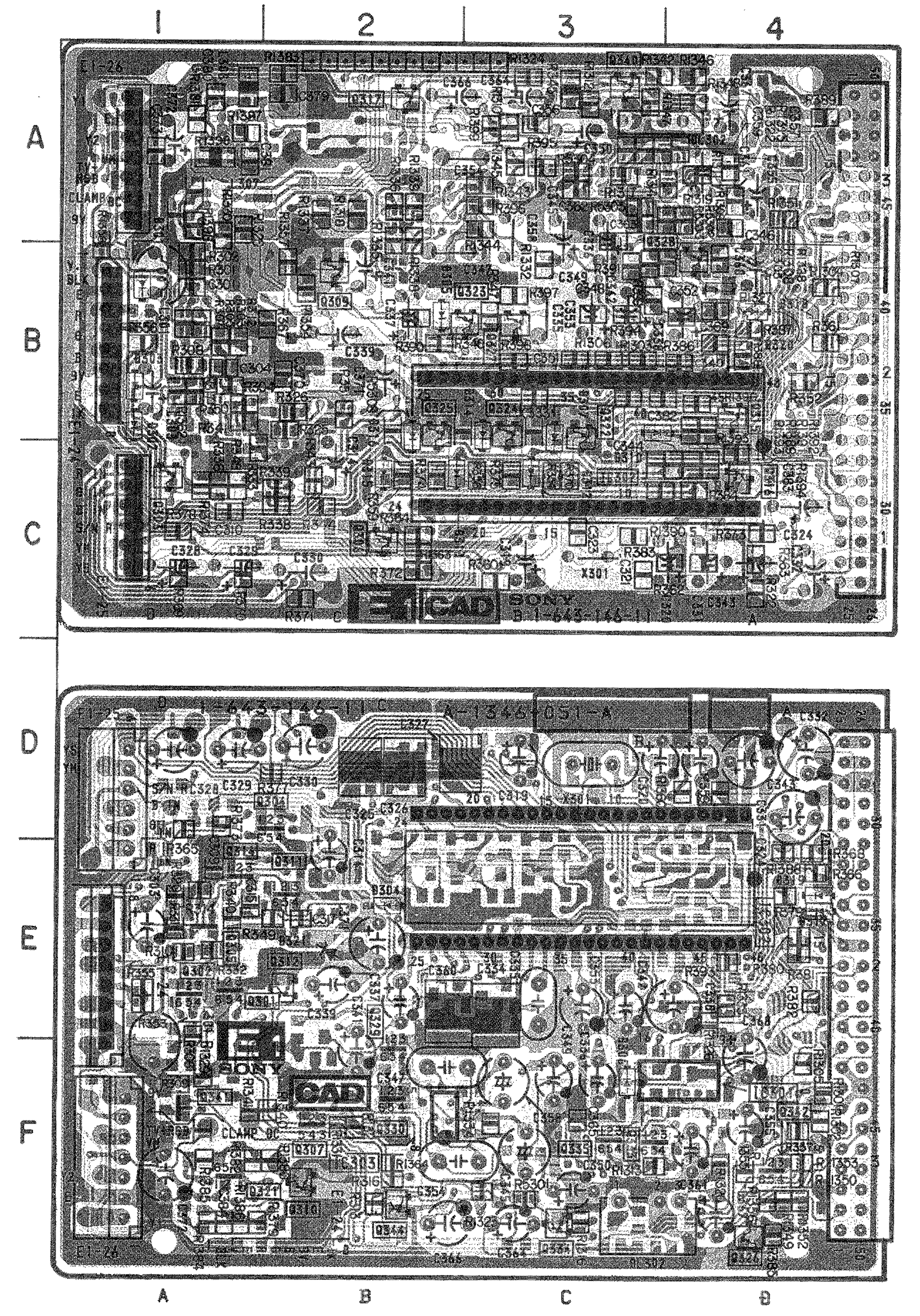
E1
<Y/C JUNGLE>

B-SS4020<U/C>-E1.

E1 [Y/C JUNGLE]

• : Pattern from the side which enables seeing.
• : Pattern of the rear side.

— E1 Board —



— E1 Board —

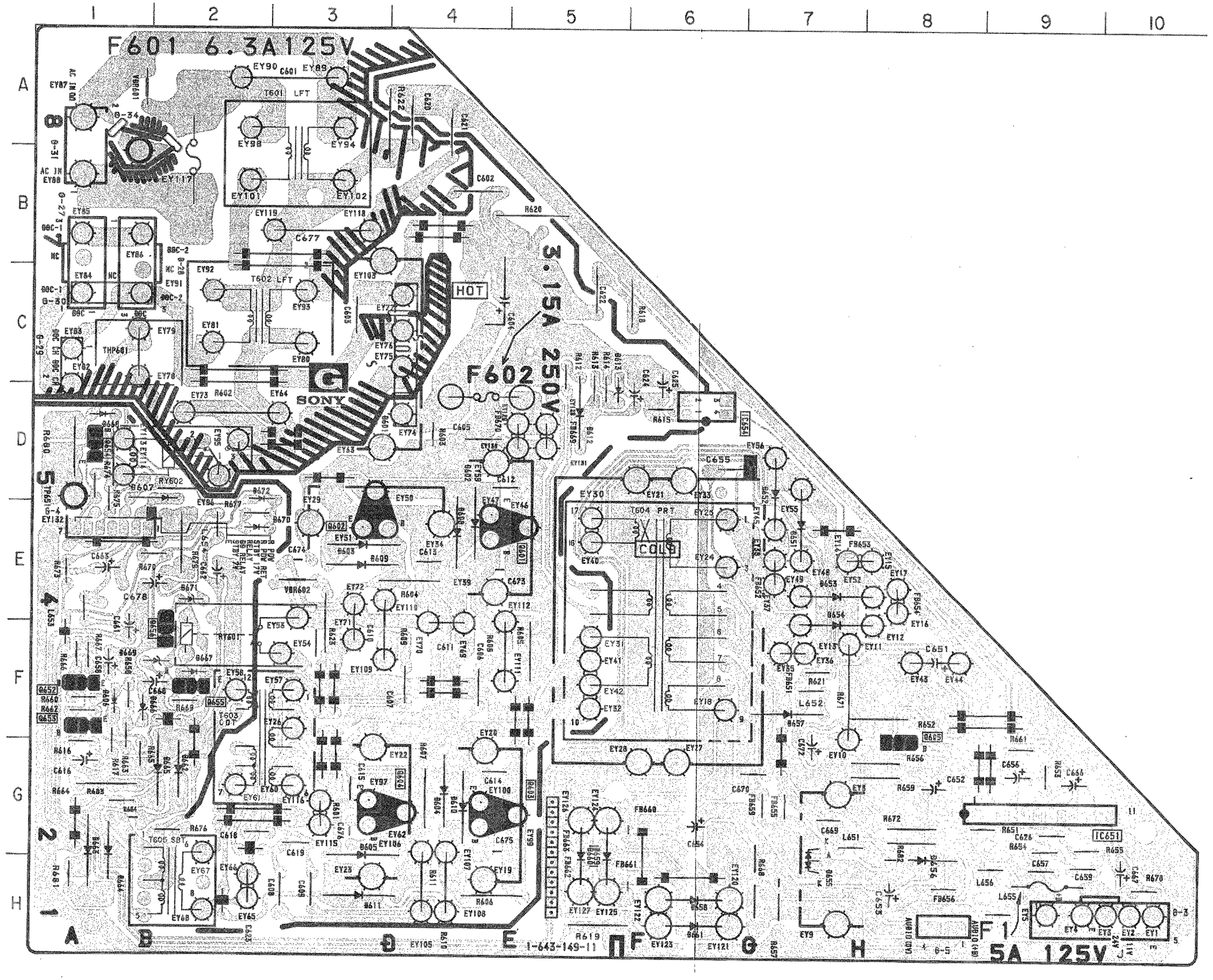
IC	
IC301	F-4
302	B-3
303	F-2

TRANSISTOR	
Q301	E-2
302	E-1
303	C-1
304	Đ-2
305	E-1
306	C-2
307	F-2
309	B-2
310	F-2
311	E-2
312	E-2
314	E-1
315	B-4
316	C-4
317	A-2
321	F-1
322	B-3
323	B-3
324	B-3
325	B-2
326	F-4
327	B-3
328	B-4
329	F-2
330	F-2
333	F-4
334	F-3
335	F-3
340	A-3
342	F-4
344	F-2

ĐIOĐE	
Đ301	B-1
302	B-1
303	B-1
304	E-2
305	B-2
306	F-3
307	B-3
310	B-3
312	C-3
313	C-2
314	B-3
315	C-2
316	B-2
317	E-4
318	B-4
Đ319	E-4
320	B-4
321	E-2

G [POWER SUPPLY, DEGAUSSING CIRCUIT]

— G Board —



— G Board —

IC	
IC651	G-9
654	Đ-6

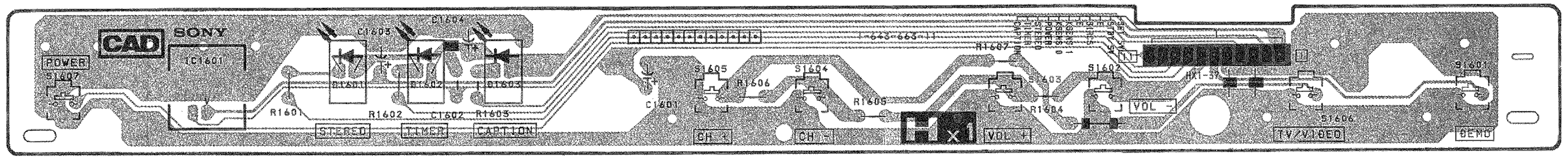
TEST POINT	
TP651	Đ-1

TRANSISTOR	
Q601	E-4
602	E-3
603	G-4
604	G-3
605	F-8
652	F-1
653	F-1
654	Đ-1
655	F-2
656	F-2

ĐIOĐE	
Đ601	C-4
602	E-4
603	E-3
604	G-4
605	G-3
606	F-1
607	Đ-2
608	E-4
609	E-3
610	G-4
611	H-3
612	Đ-5
613	Đ-5
651	E-7
652	Đ-7
653	E-7
654	E-7
655	G-7
656	G-8
657	F-7
663	G-1
665	G-2
666	F-1
667	F-2
668	Đ-1
669	F-2
670	E-2
671	E-2
672	Đ-2

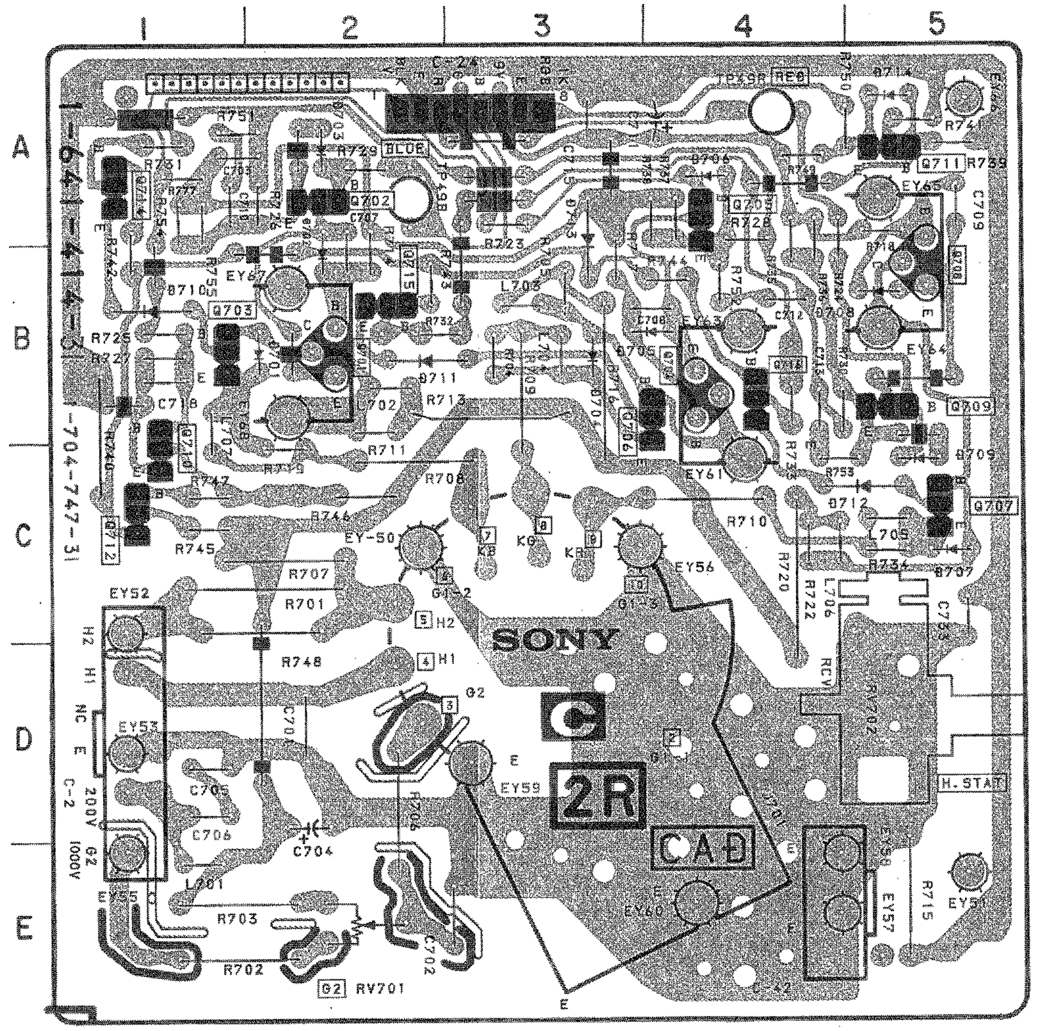
HX1 [USER CONT. SW, RC SENSOR, LED]

— HX1 Board —



C [R.G.B. OUT]

— C Board —



— C Board —

TRANSISTOR	
Q701	B-2
702	A-2
703	B-1
704	B-4
705	A-4
706	B-4
707	C-5
708	B-5
709	B-5
710	C-1
711	A-5
712	C-1
714	A-1
715	B-3
716	B-4

DIODE	
D701	B-2
702	B-2
703	A-2
704	B-3
705	B-4
706	A-4
707	C-5
708	B-5
709	B-5
710	B-1
711	B-3
712	C-5
713	B-3
714	A-5

VALIABLE RESISTOR	
RV701	E-2
702	C-5

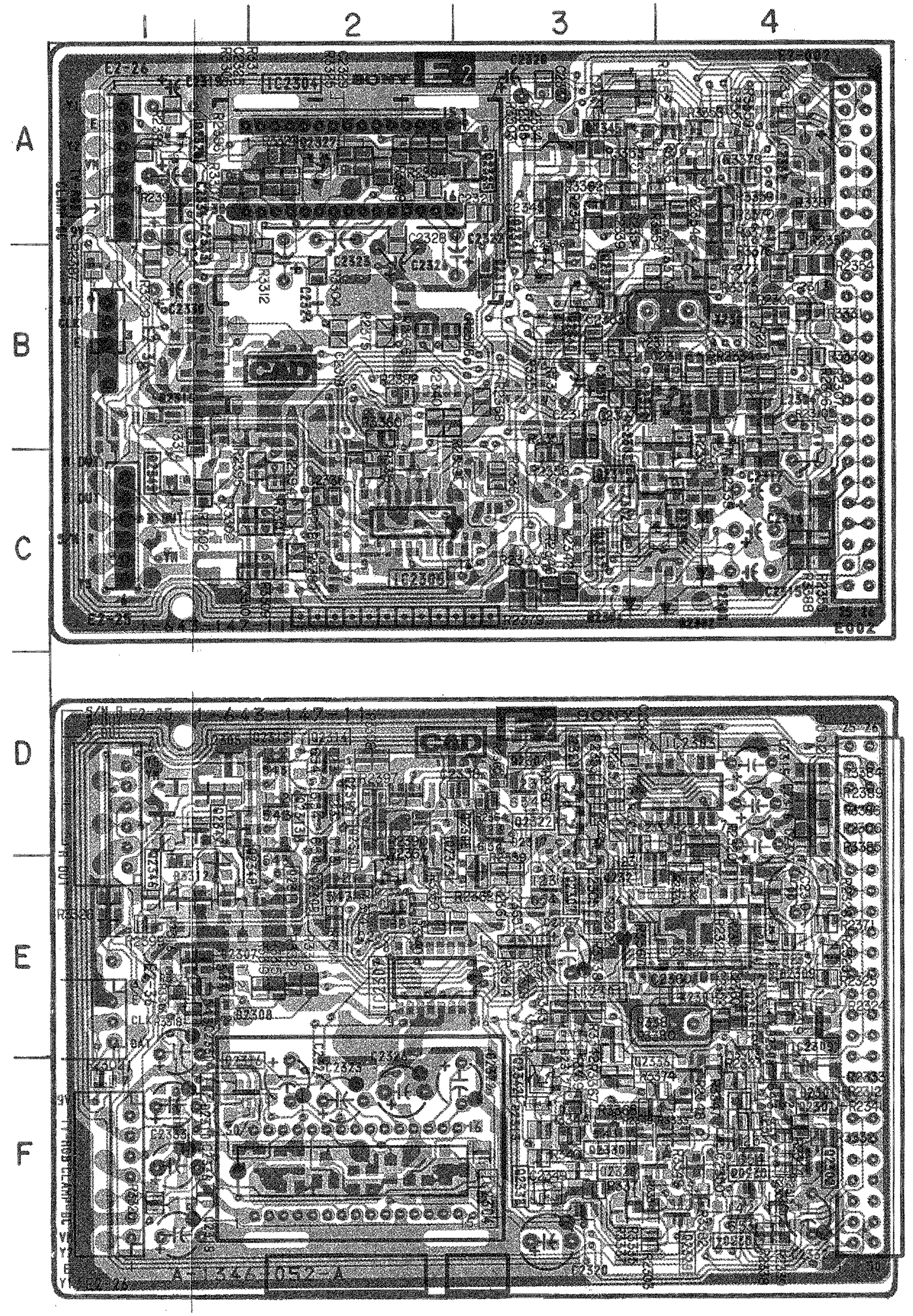
TEST POINT	
TP49B	A-2
49R	A-4

KV-32XBR90S
RM-AV1100

E2 [SHARPNESS CONT., CHARACTER GENERATOR]

- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

— E2 Board —

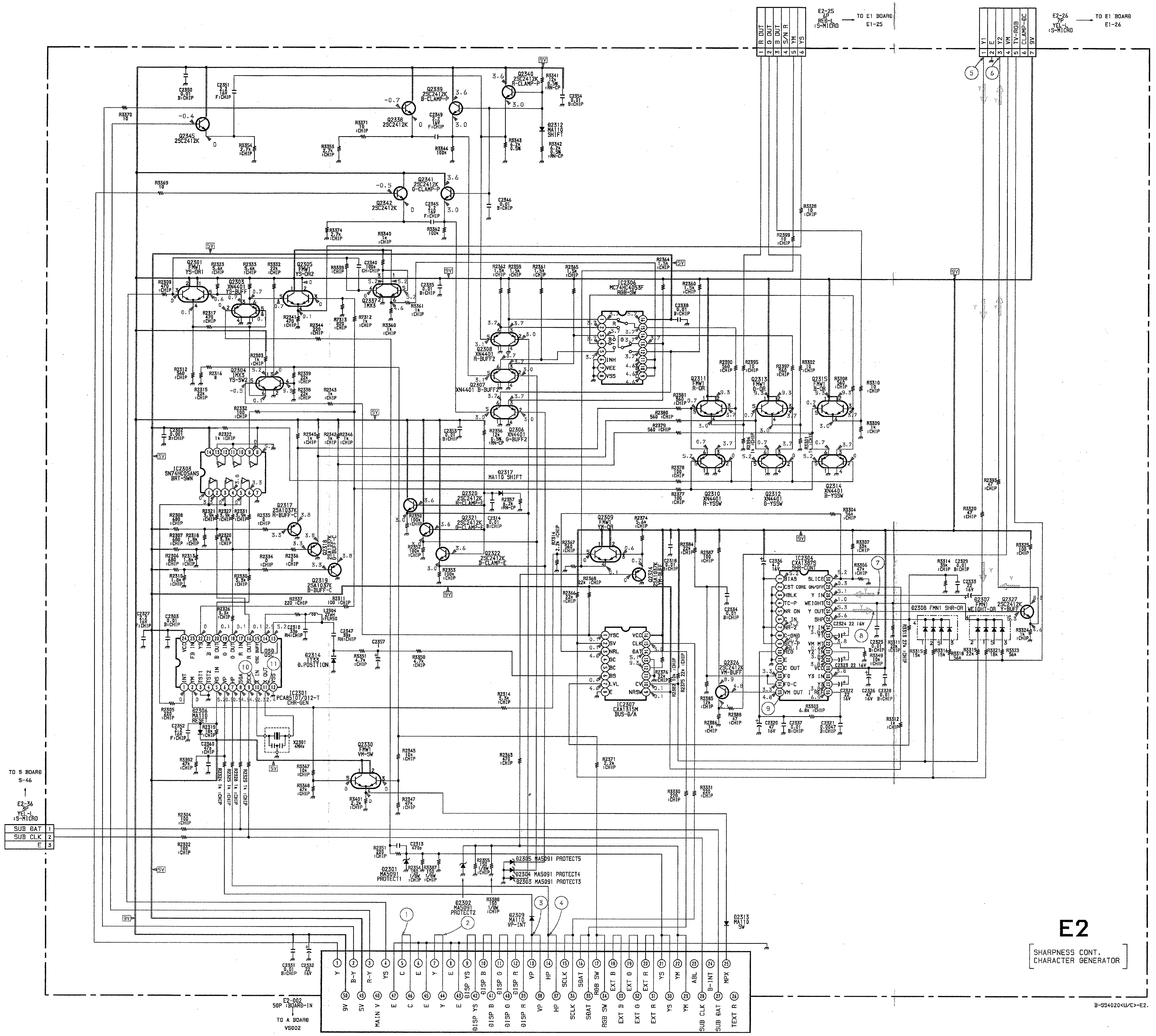


— E2 Board —

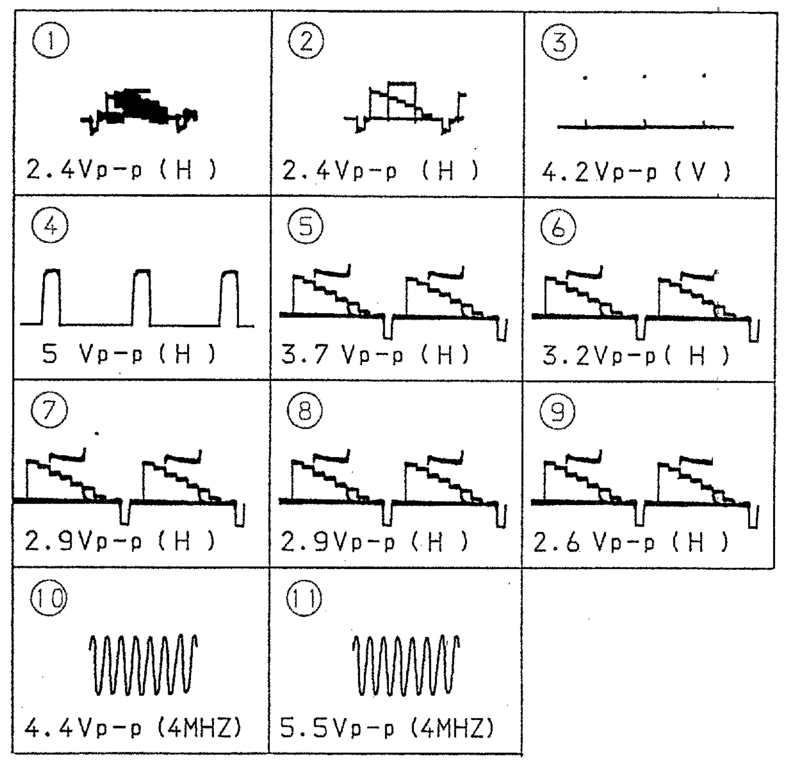
IC	
IC2301	E-4
2303	D-4
2304	A-2
2306	C-2
2307	E-2

TRANSISTOR	
Q2301	F-4
2303	F-4
2304	F-4
2305	E-4
2306	D-3
2307	E-3
2308	D-3
2309	E-2
2310	D-2
2311	D-2
2312	D-2
2313	D-2
2314	D-2
2315	D-2
2317	C-4
2318	B-4
2319	C-4
2320	D-3
2321	D-3
2322	D-3
2324	E-2
2326	A-1
2327	A-2
2330	F-3
2337	E-2
2338	F-3
2339	B-3
2340	B-3
2341	B-3
2342	F-3
2345	A-3

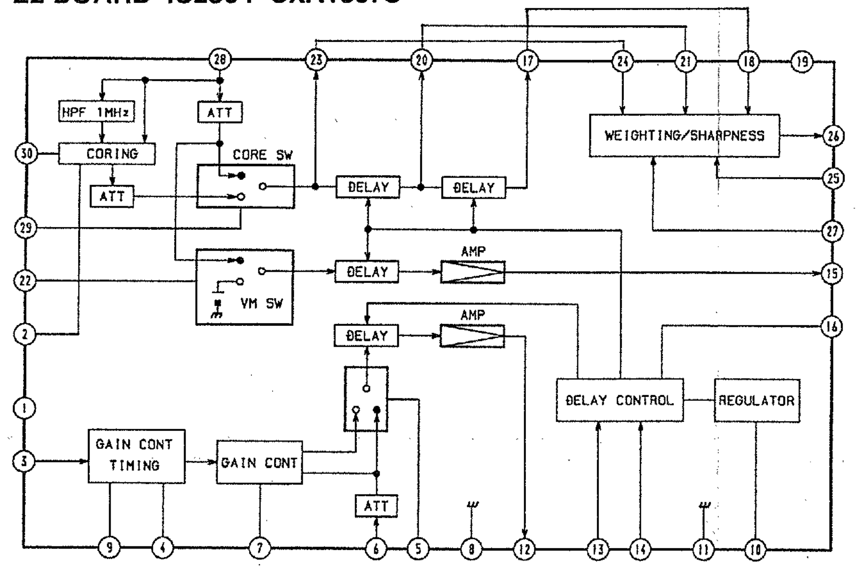
DIODE	
D2301	F-4
2302	C-4
2303	C-4
2304	C-3
2305	C-4
2306	F-4
2307	E-1
2308	E-1
2309	E-4
2312	E-3
2313	F-3
2314	E-4
2317	D-3

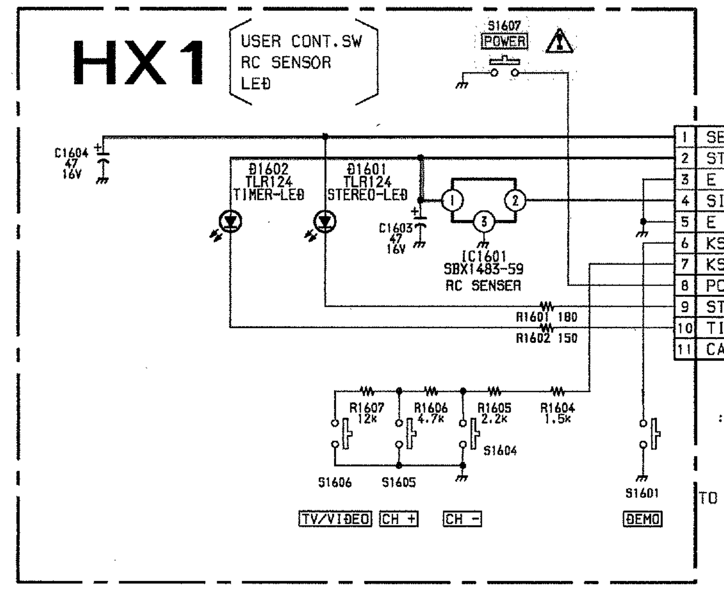


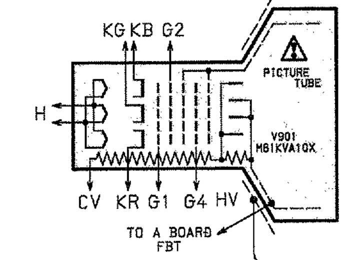
— E2 Board —



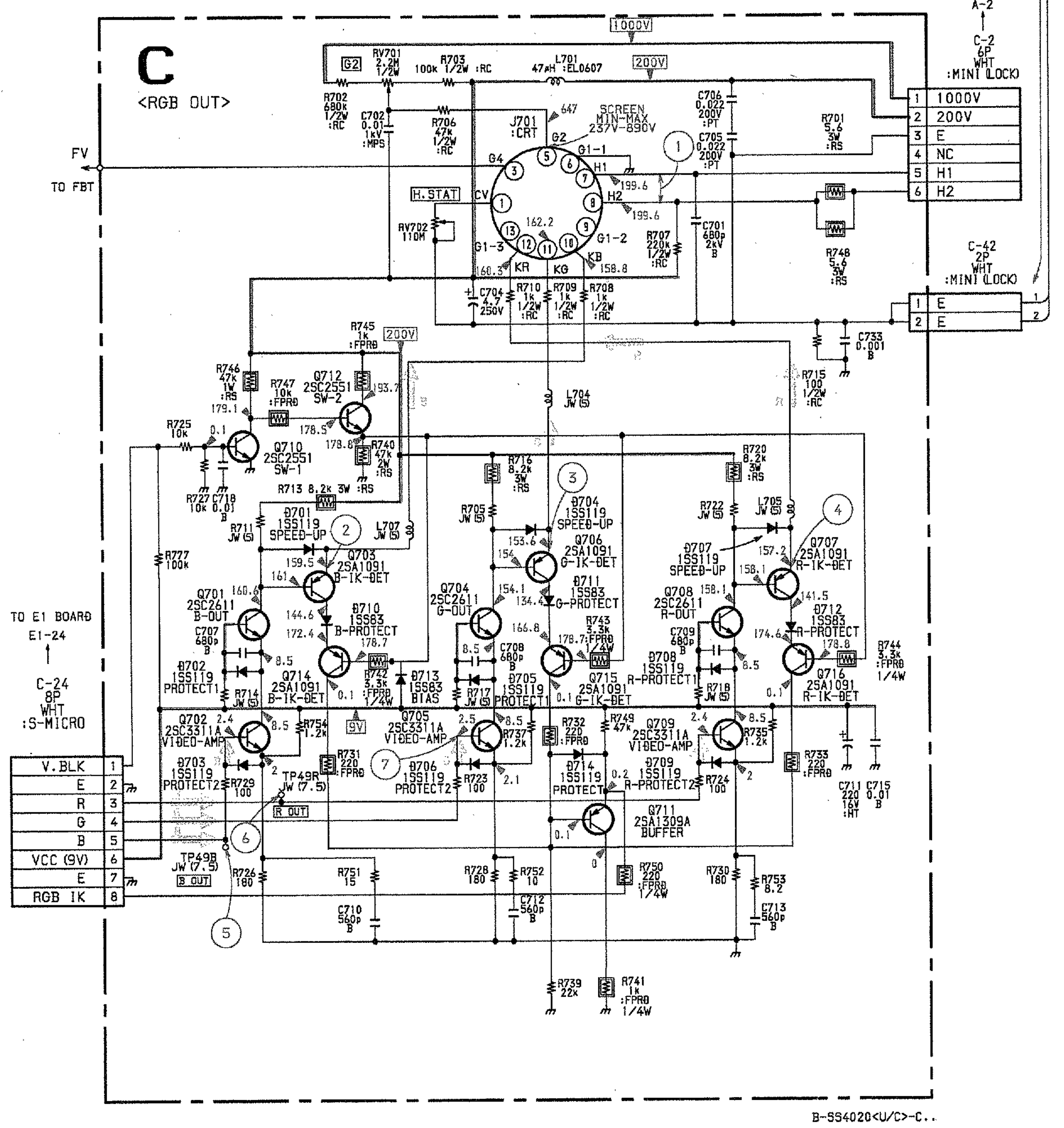
E2 BOARD IC2304 CXA1387S



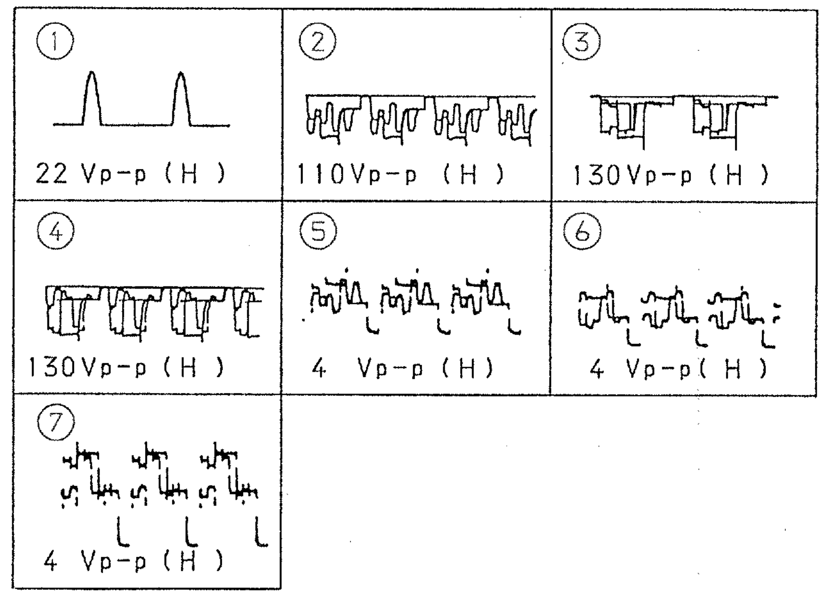




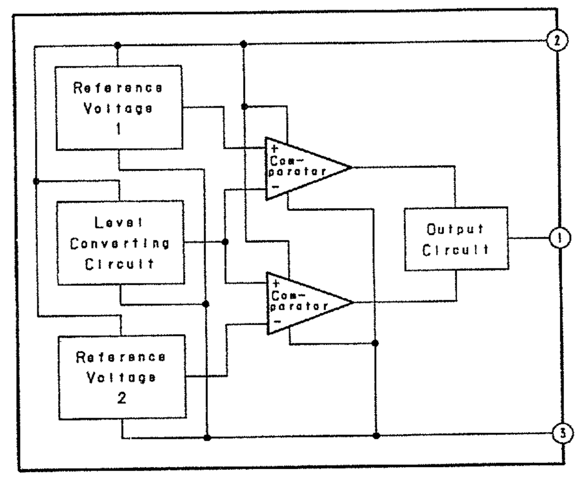
CAUTION
BE SURE TO CONNECT THE CONNECTOR C-42 FOR SAFETY.



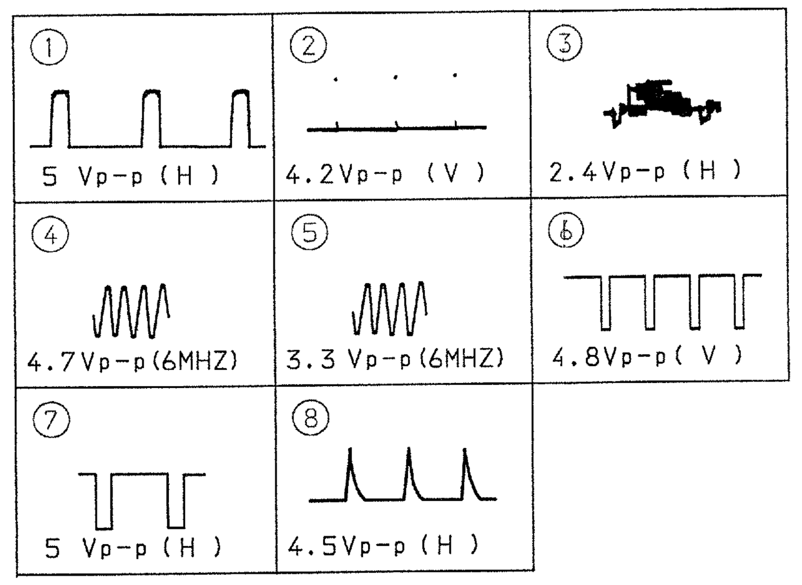
— C Board —

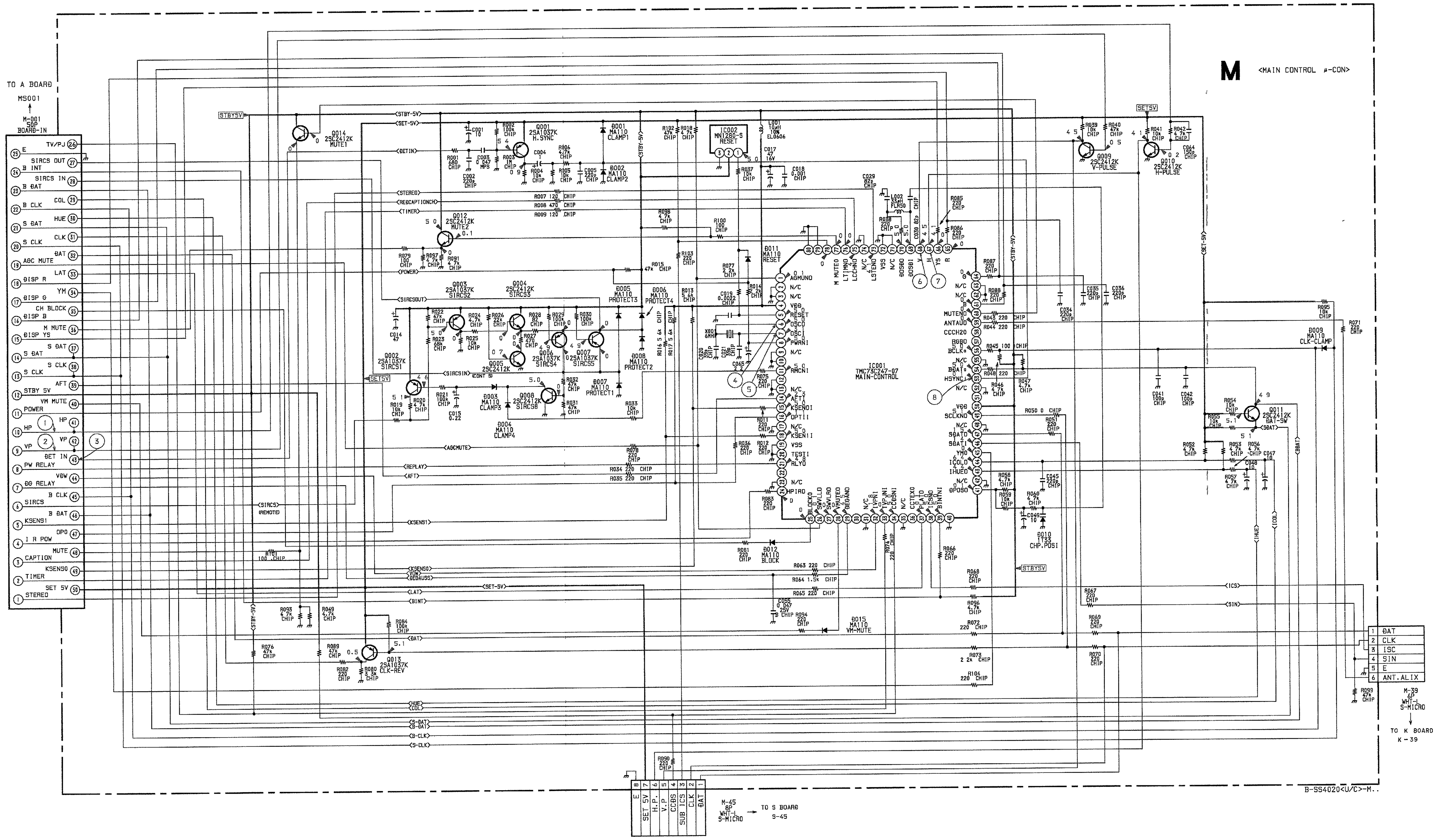


M BOARD IC002 MN1280-S

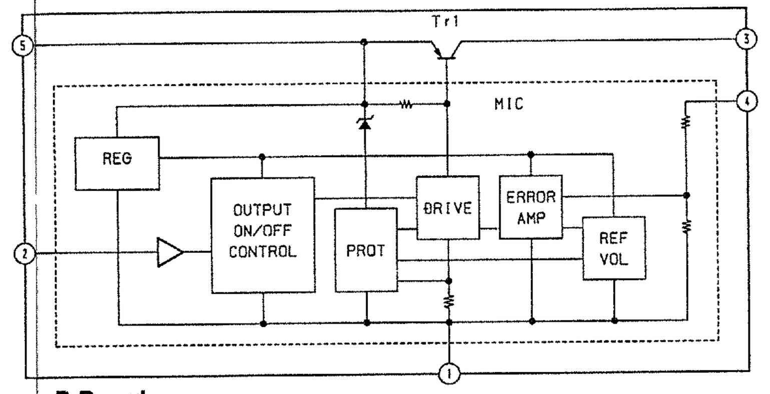


— M Board —

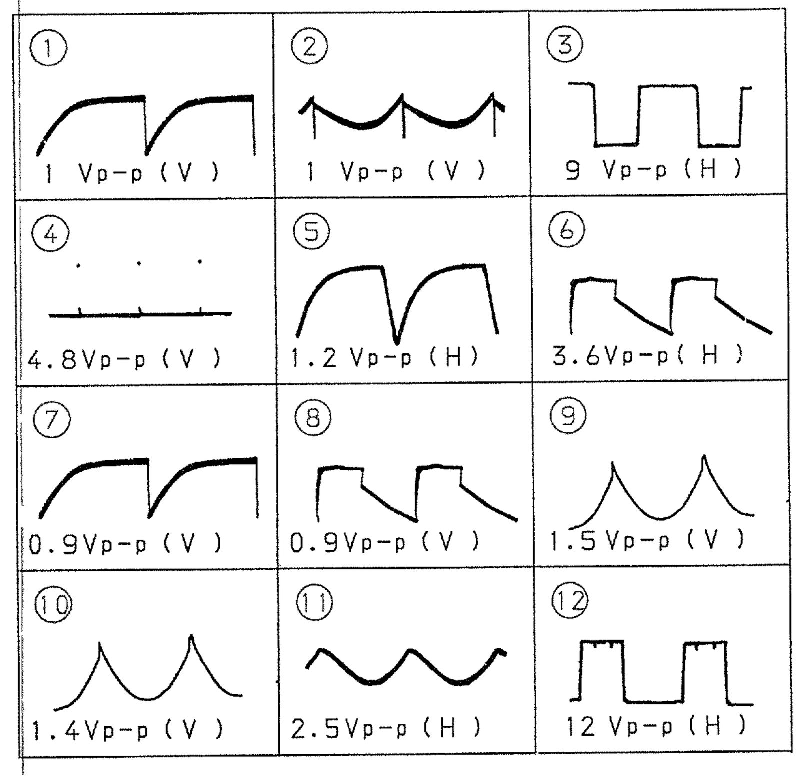


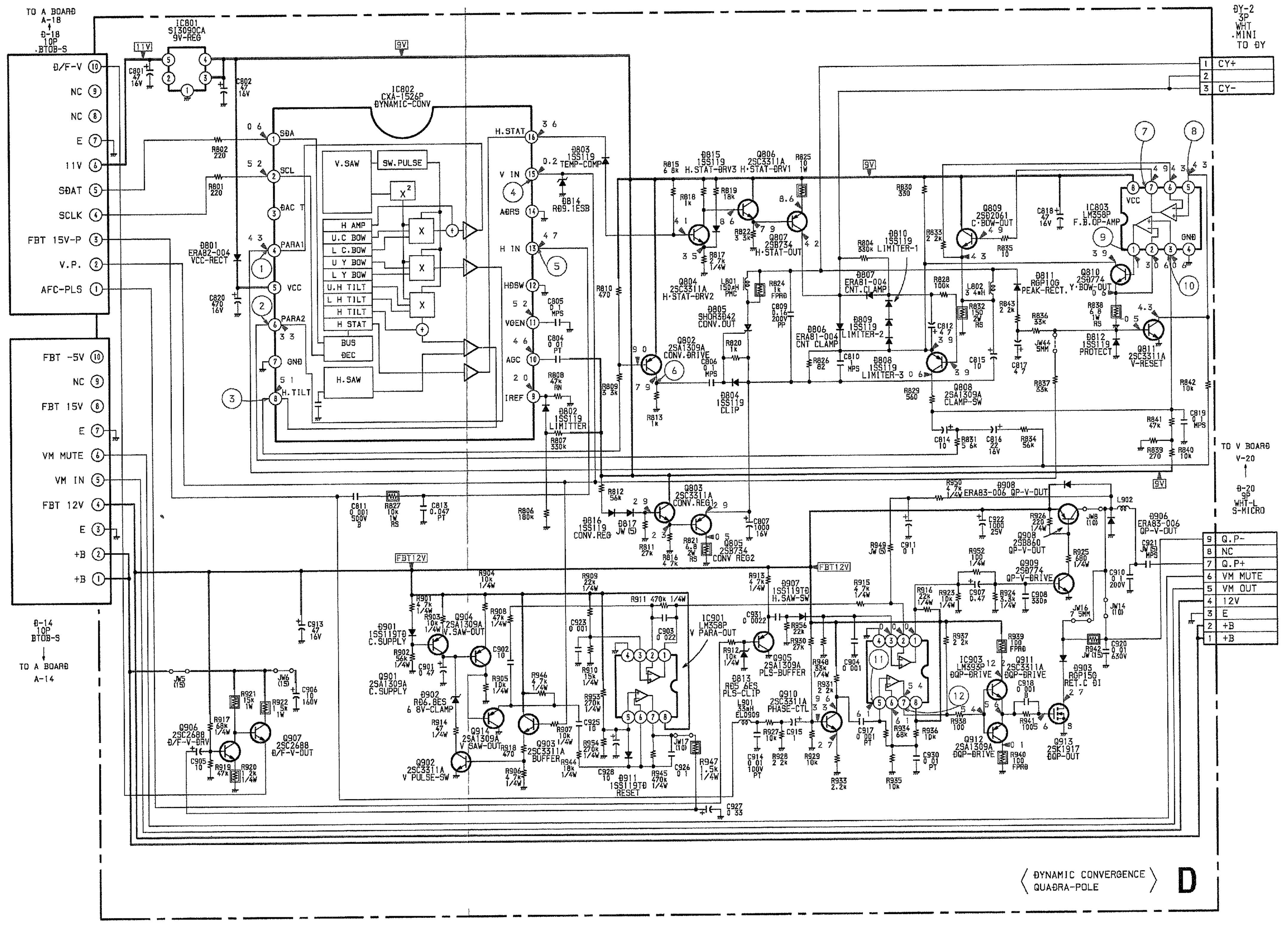


D BOARD IC801 SI-3090CA



— D Board —

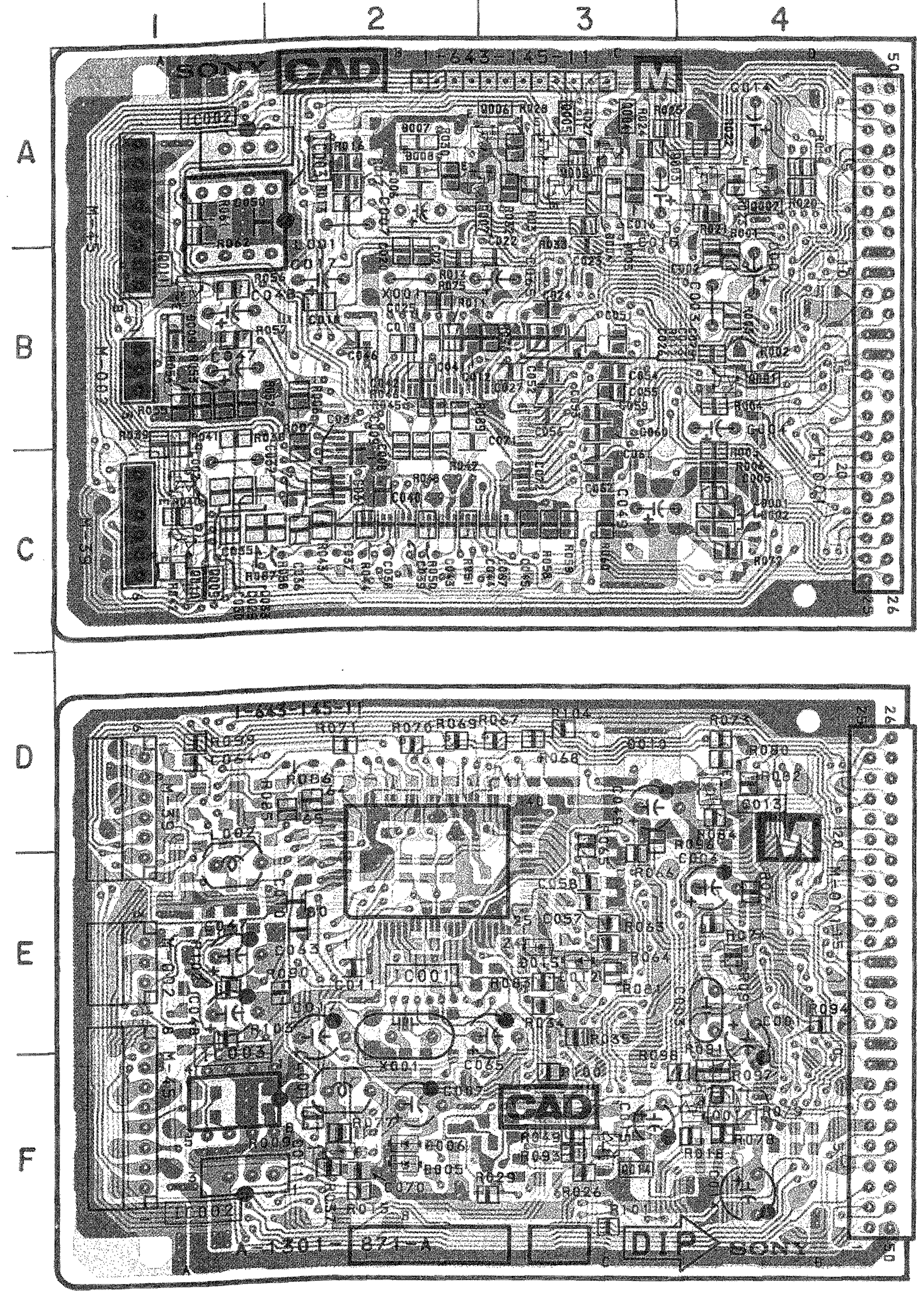




M [MAIN CONTROL μ-CON]

- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

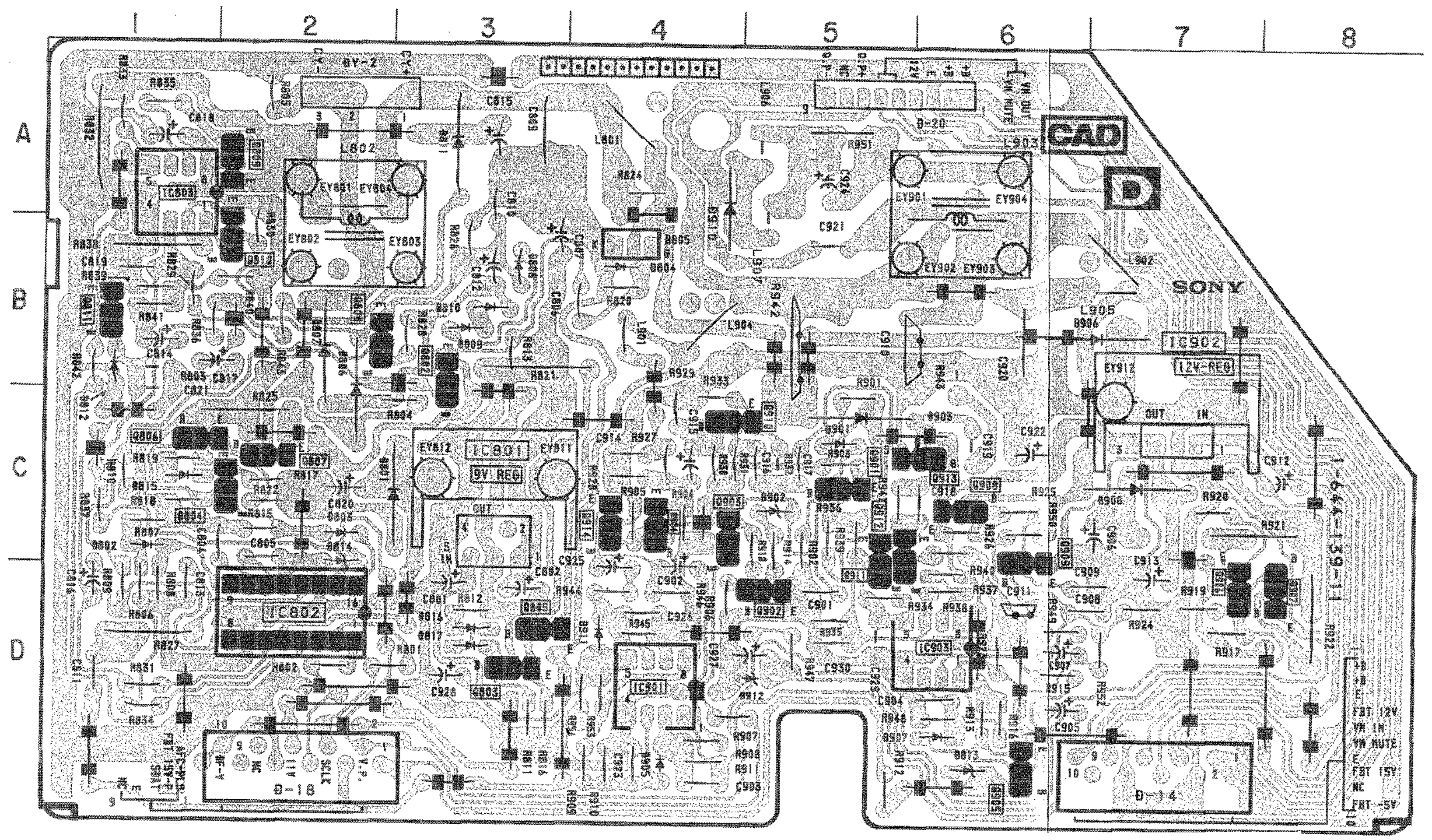
— M Board —



IC	
IC001	E-2
002	A-1
TRANSISTOR	
Q001	B-4
002	A-4
003	A-4
004	A-3
005	A-3
006	A-3
007	A-3
008	A-3
009	C-1
010	C-1
011	B-1
012	F-4
013	D-4
014	F-3
DIODE	
D001	C-4
002	C-4
003	A-3
004	A-3
005	F-2
006	F-2
007	A-2
008	A-2
009	B-1
010	D-3
011	F-2
012	E-3
015	E-3

D [DYNAMIC CONVERGENSE, QUADRA-POLE]

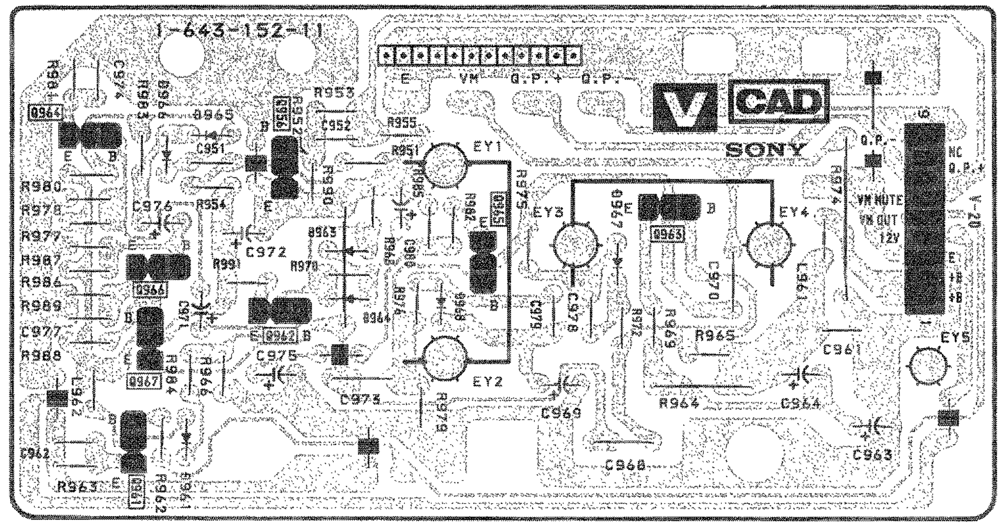
— D Board —



IC	
IC801	C-3
802	D-2
803	A-1
901	D-4
903	D-6
TRANSISTOR	
Q802	B-3
803	D-3
804	C-2
805	D-3
806	C-1
807	C-2
808	B-2
809	A-2
810	B-2
811	B-1
901	C-5
902	D-5
903	C-4
904	C-4
905	D-6
906	D-7
907	D-8
908	C-6
909	C-6
910	C-4
911	C-5
912	C-5
913	C-6
914	C-4
DIODE	
D801	C-3
802	C-1
803	C-2
804	B-4
805	B-4
806	B-2
807	B-2
808	B-3
809	B-3
810	B-3
811	A-3
812	B-1
813	D-6
814	C-2
815	C-1
816	D-3
901	C-5
902	C-5
903	C-5
906	B-7
D907	D-6
908	C-7
911	D-4

V [VELOCITY MODULATION]

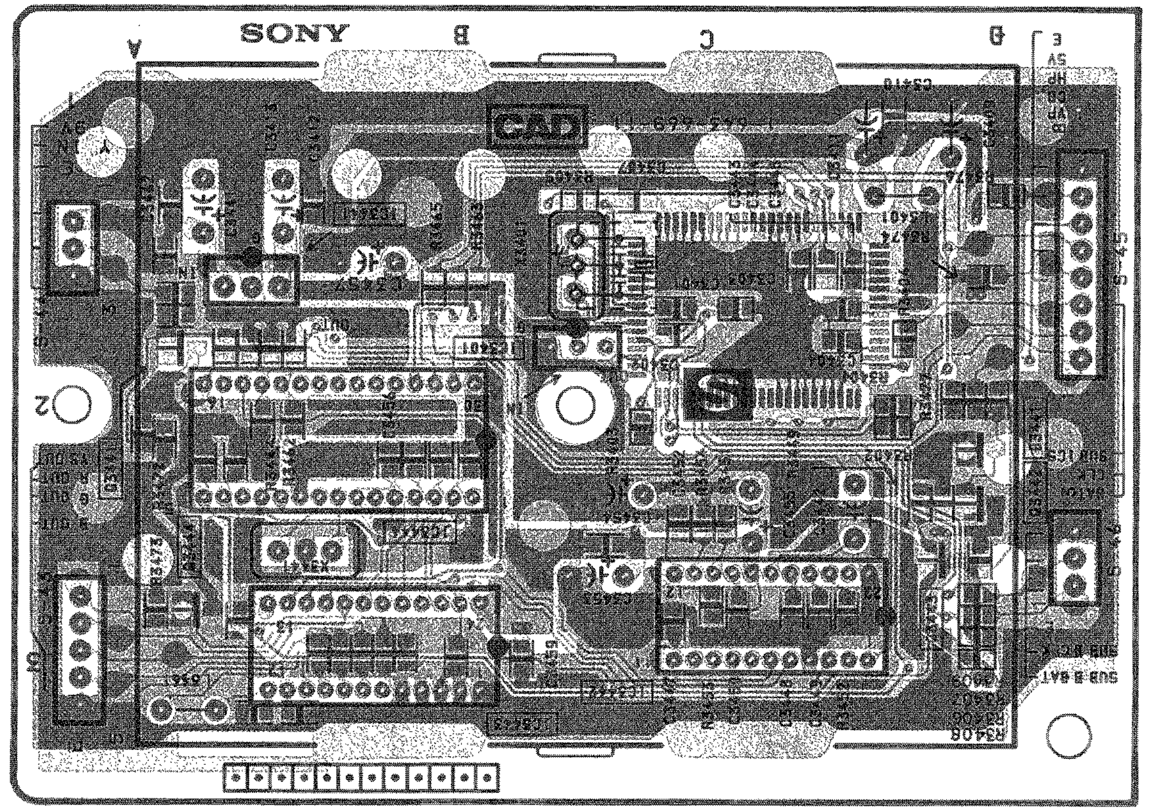
— V Board —

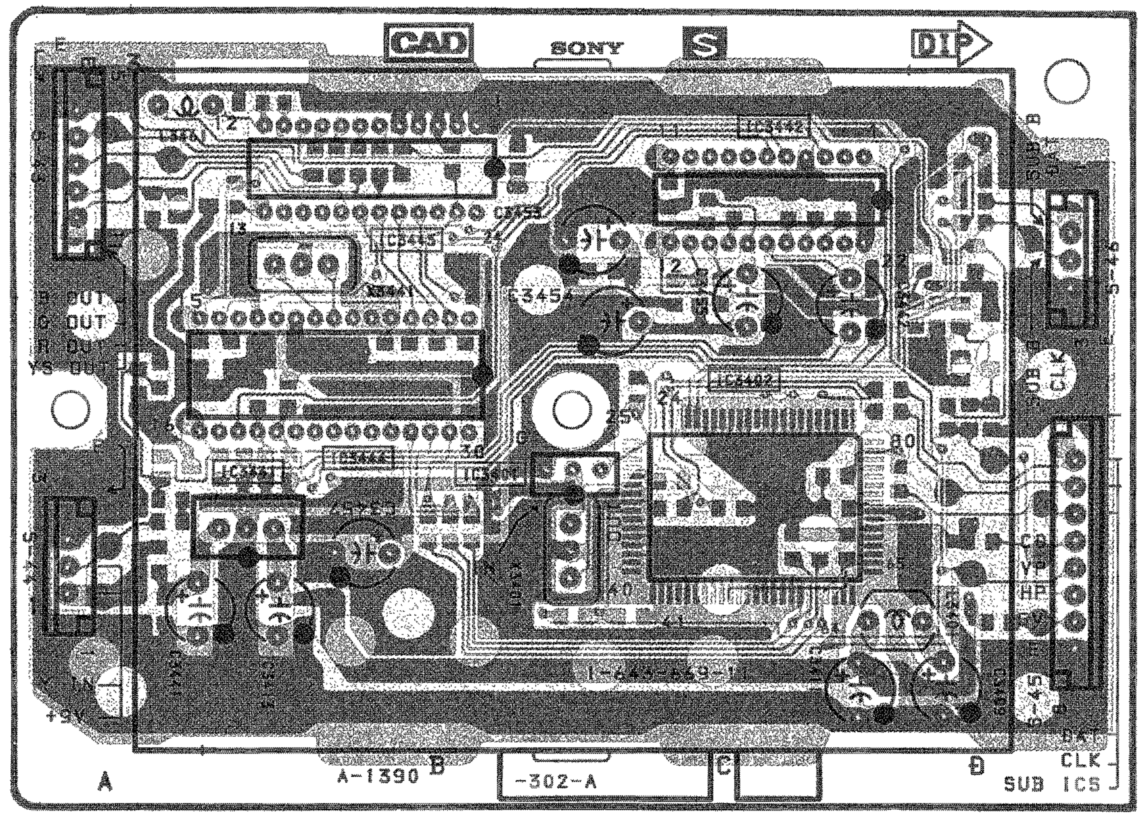


S [SUB-CONTROL μ-CON, CLOSED CAPTION DECODER]

- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

— S Board —

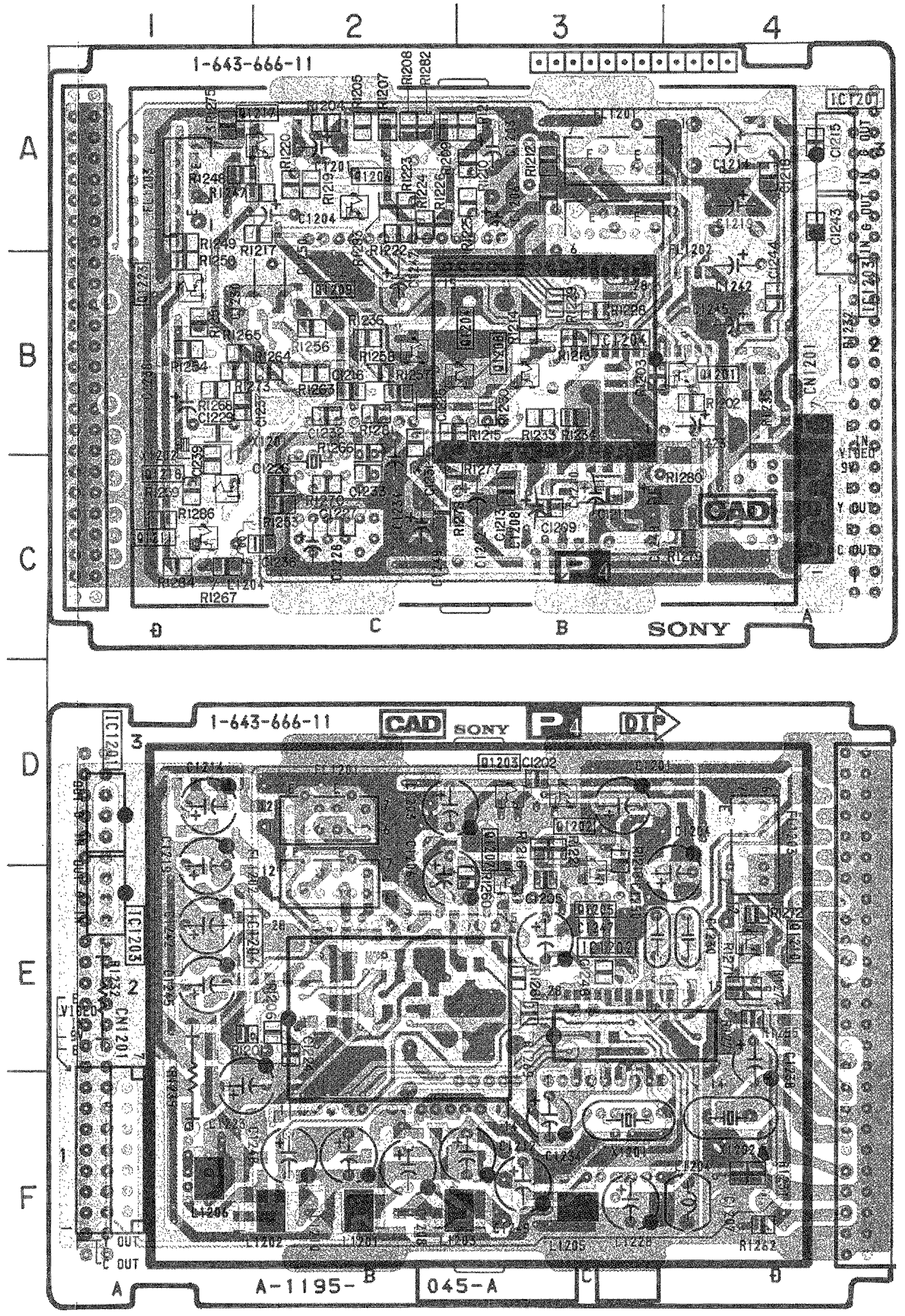




P4 [DIGITAL COMB FITER]

- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

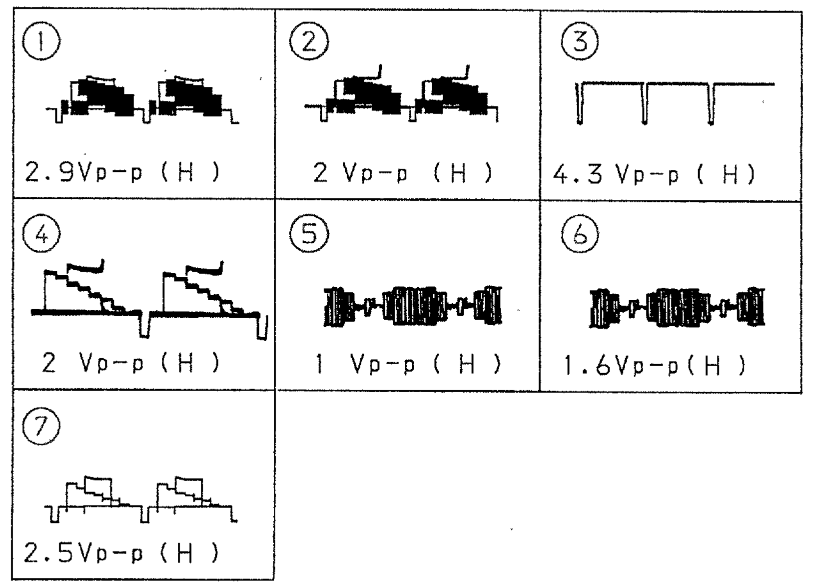
— P4 Board —



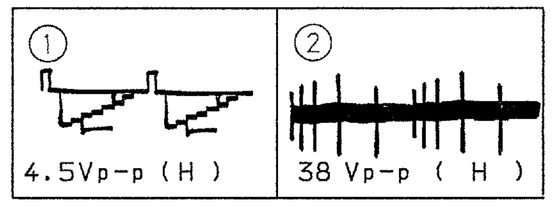
— P4 Board —

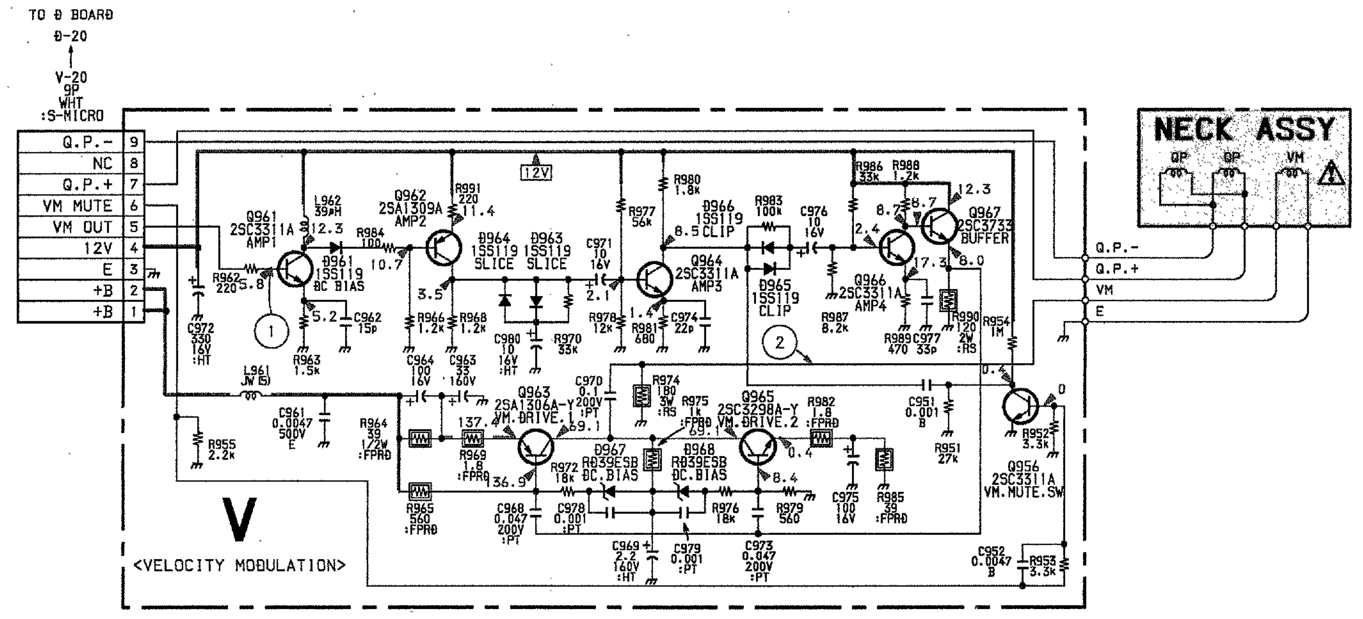
IC	
IC1201	A-4
1202	E-3
1203	A-4
1204	B-3
TRANSISTOR	
Q1201	B-4
1202	D-3
1203	D-3
1204	B-3
1205	E-3
1206	A-2
1207	E-3
1208	B-8
1209	B-2
1210	E-4
1211	C-1
1217	A-2
1218	C-1
1223	B-1

— P4 Board —

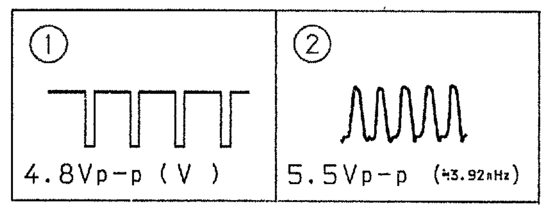


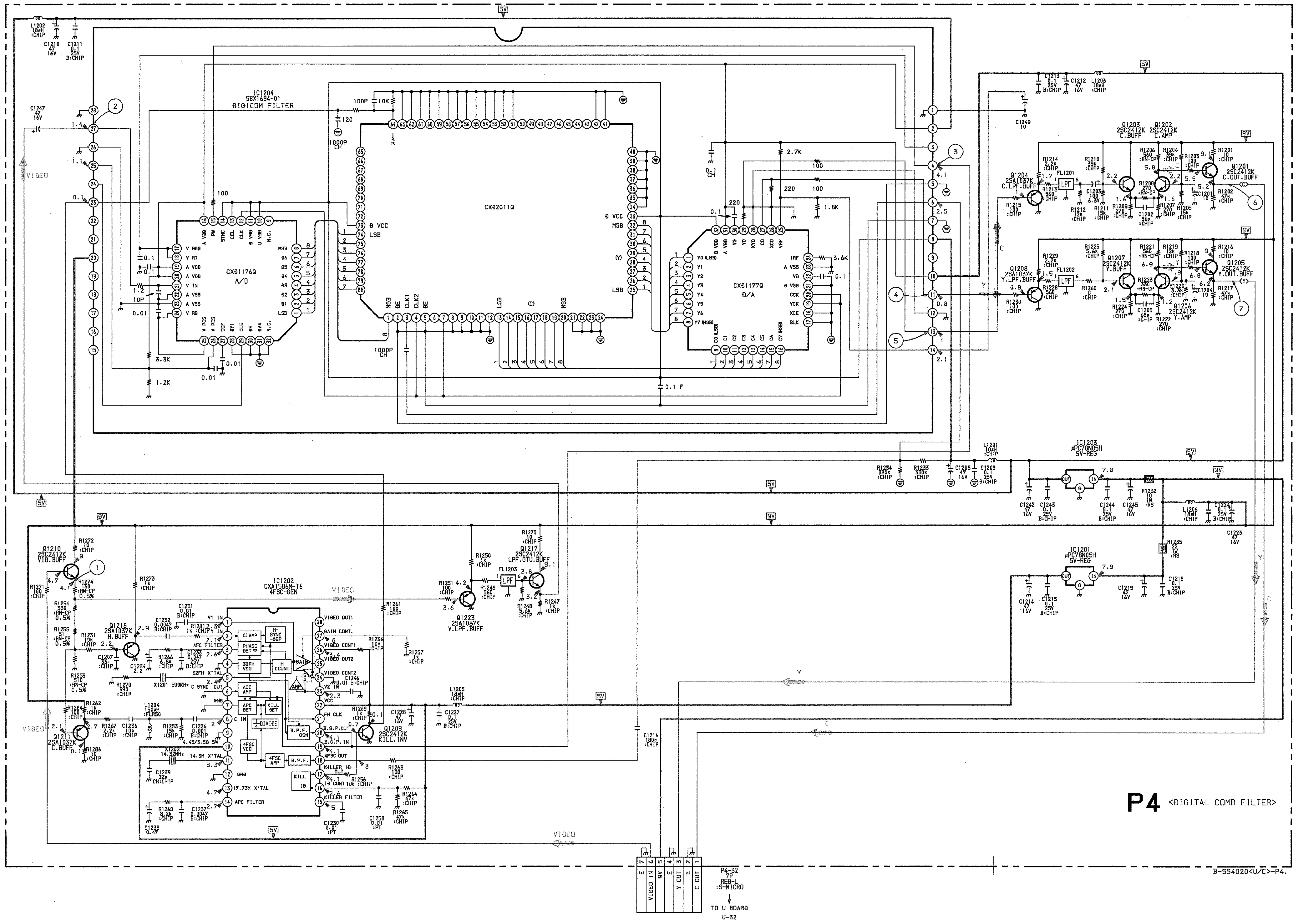
— V Board —

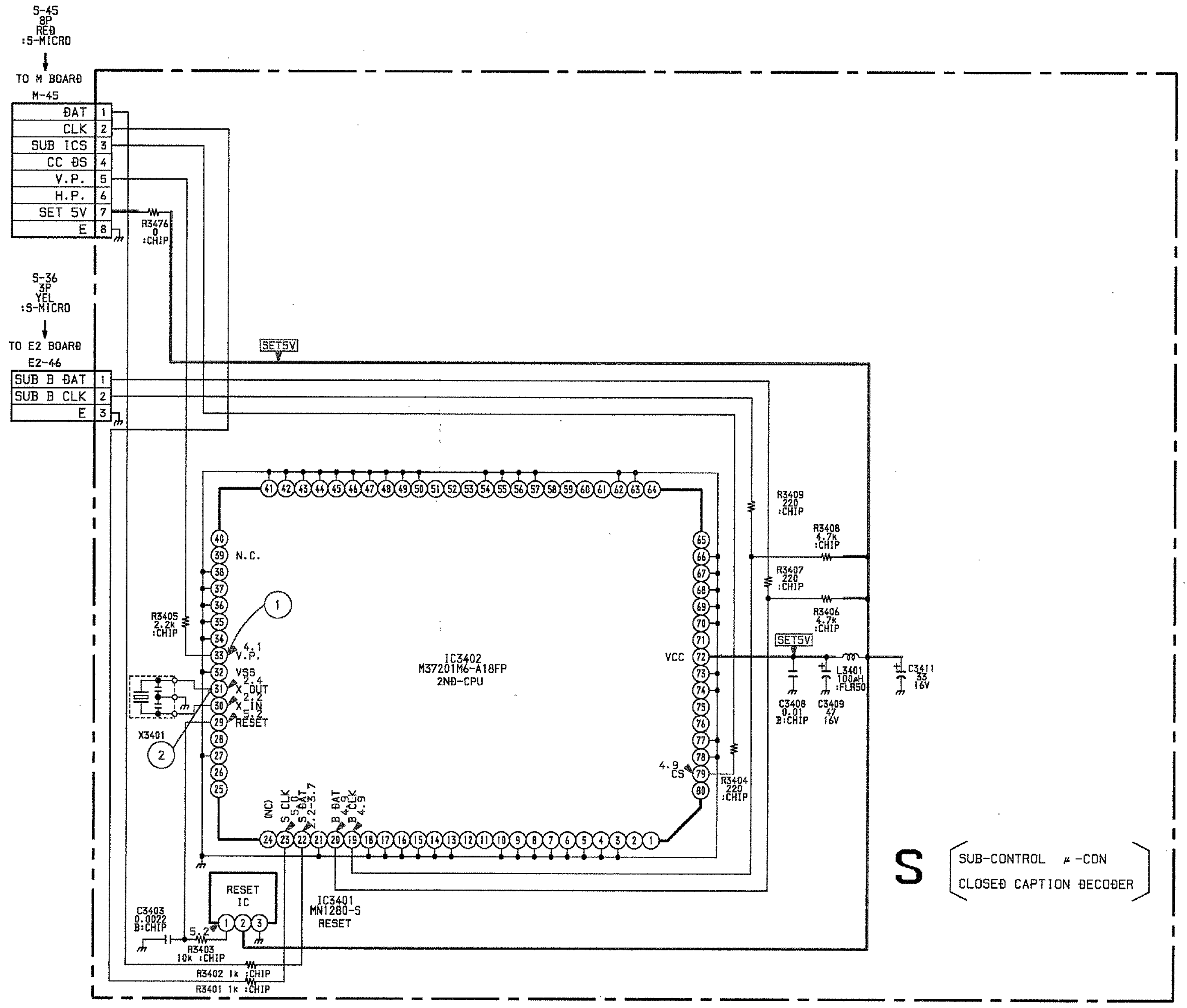




— S Board —

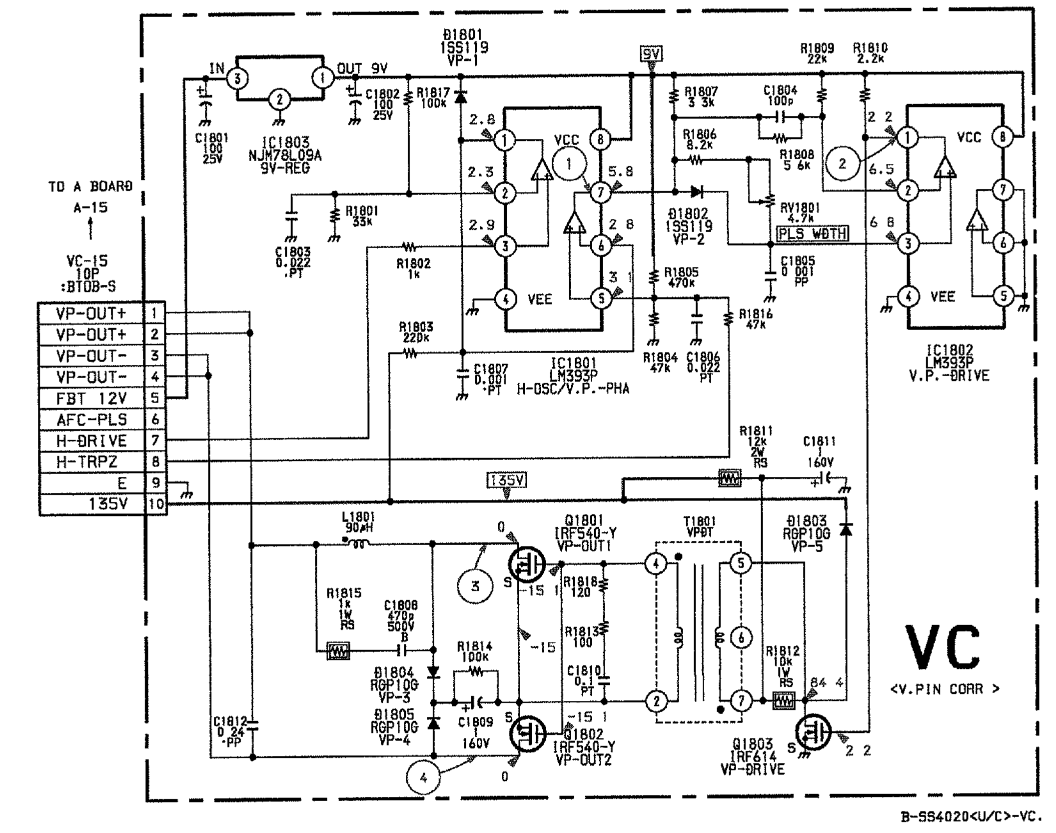




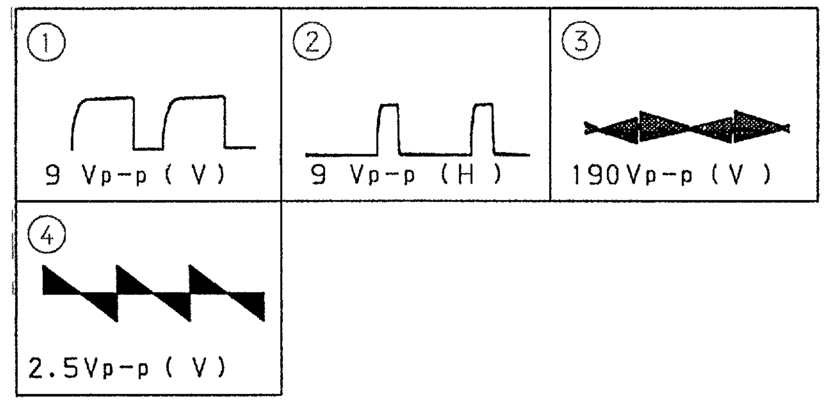


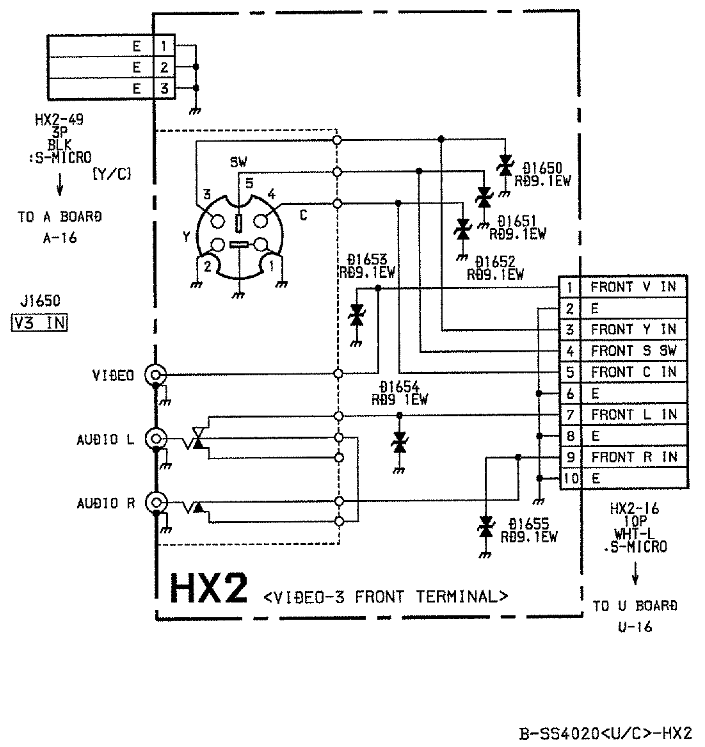
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

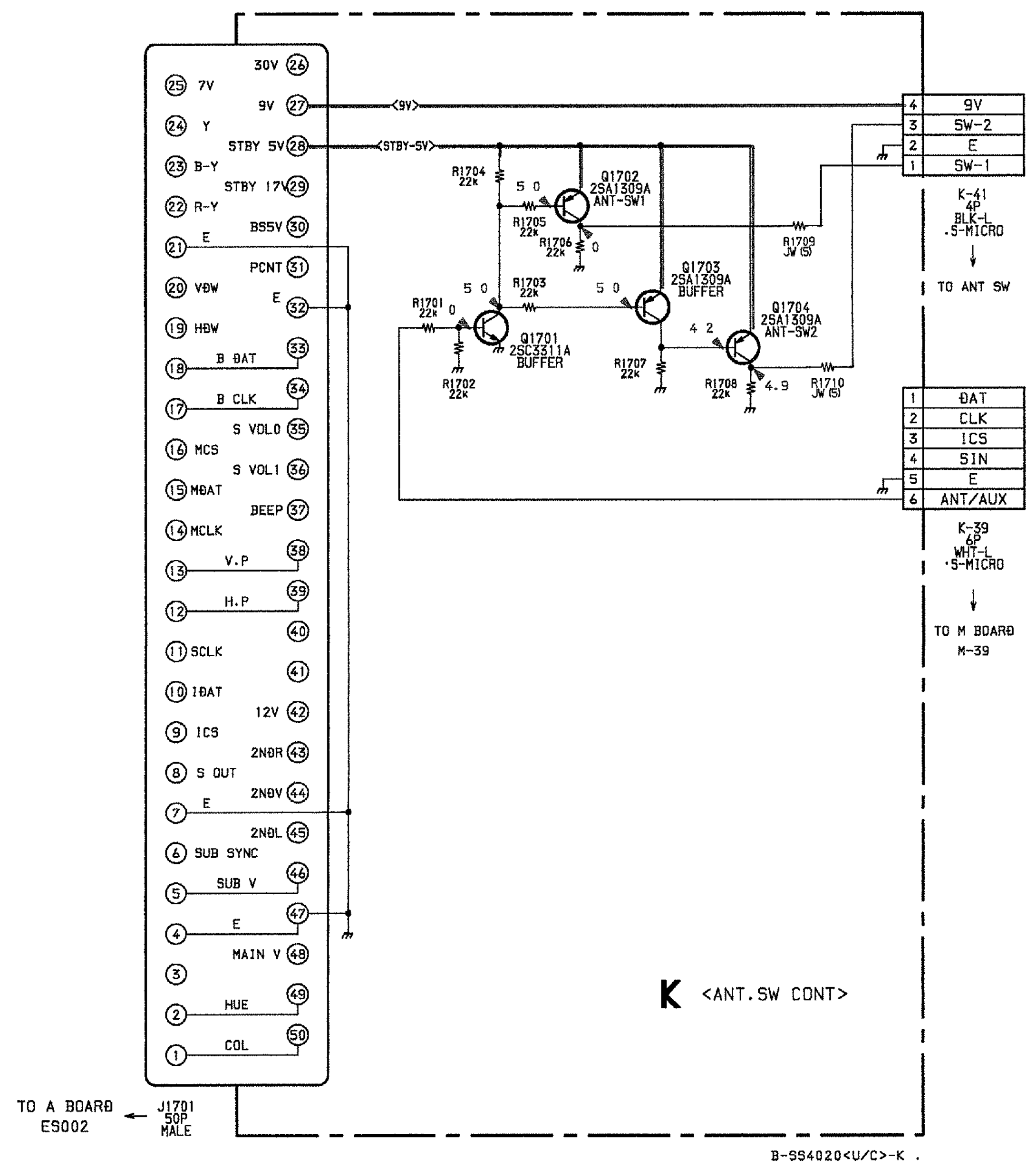
A B C D E F G H I J K L M N O P



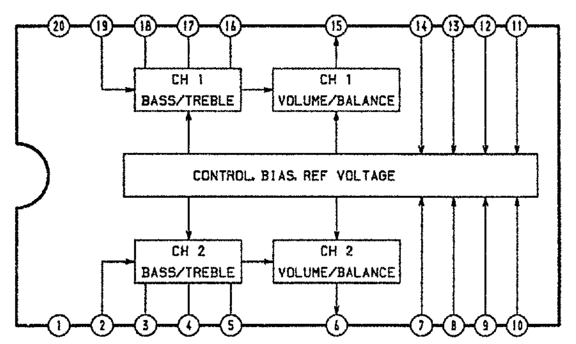
— VC Board —

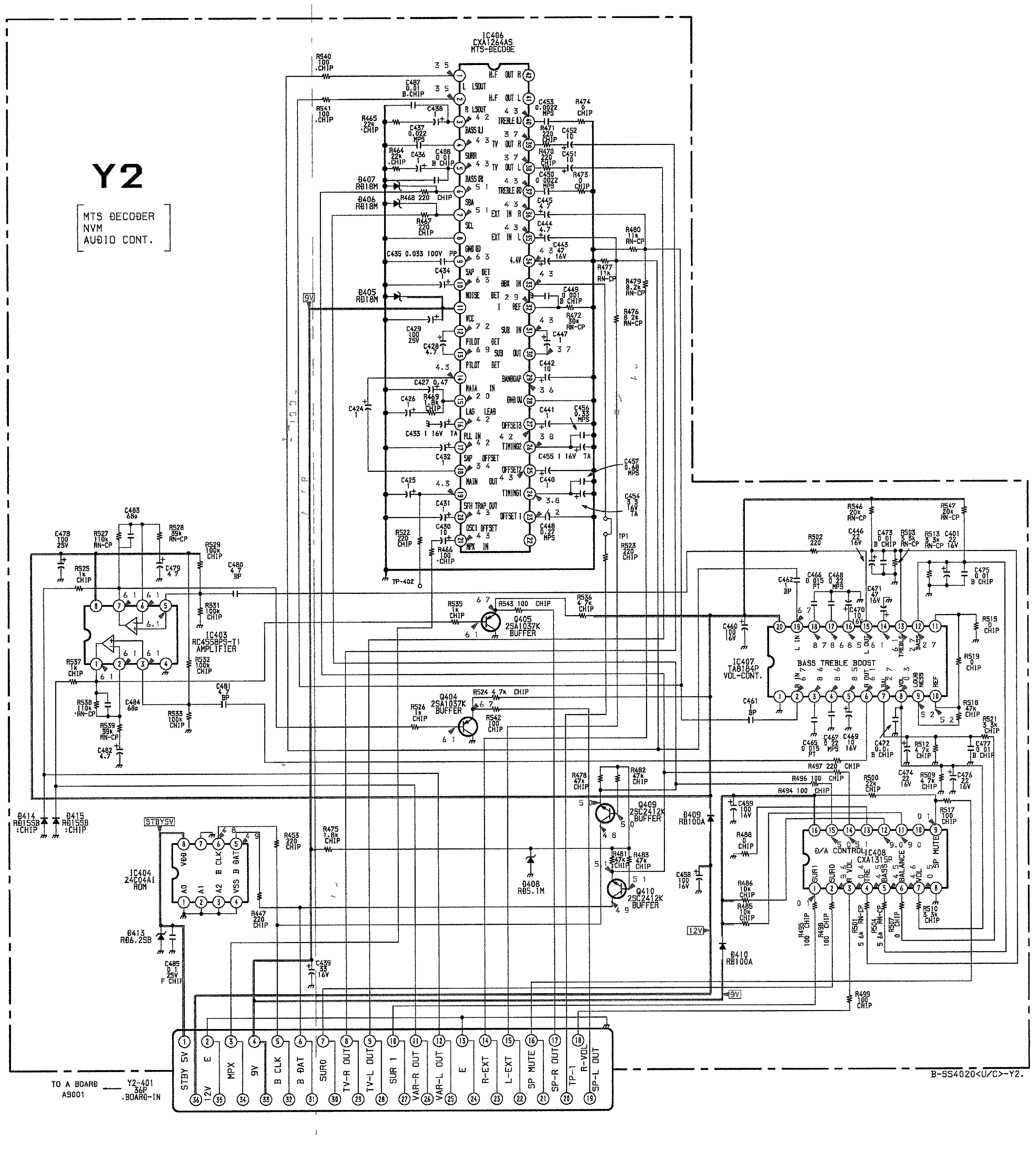






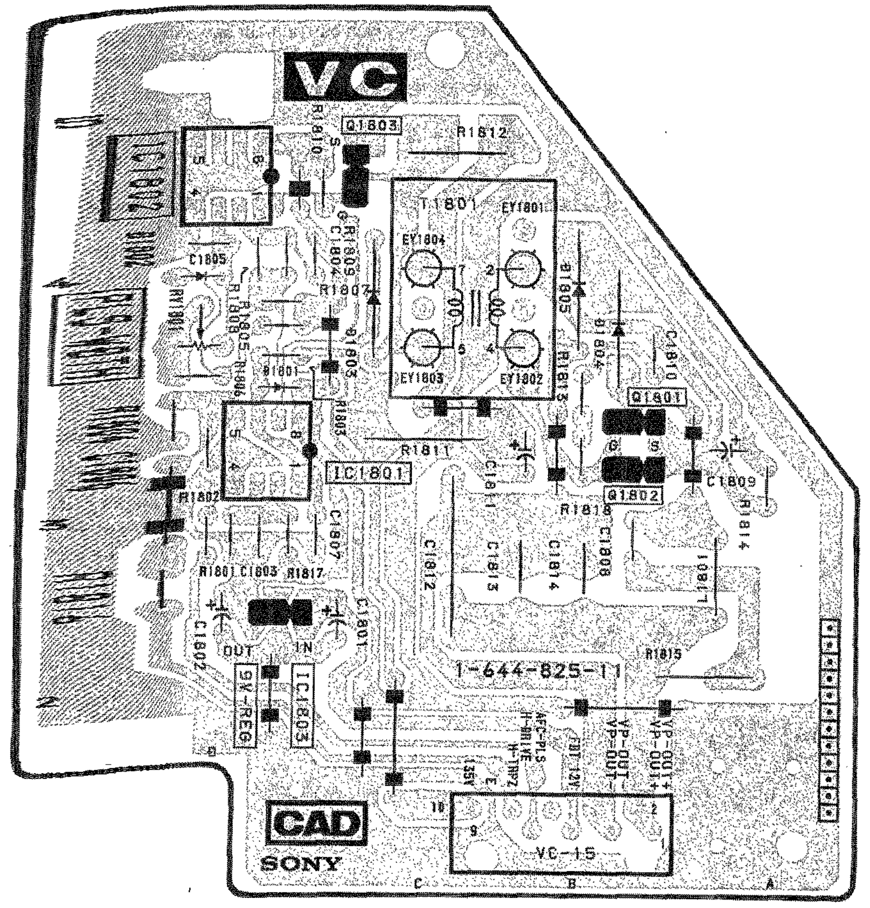
Y2 BOARD IC407 TA8184P



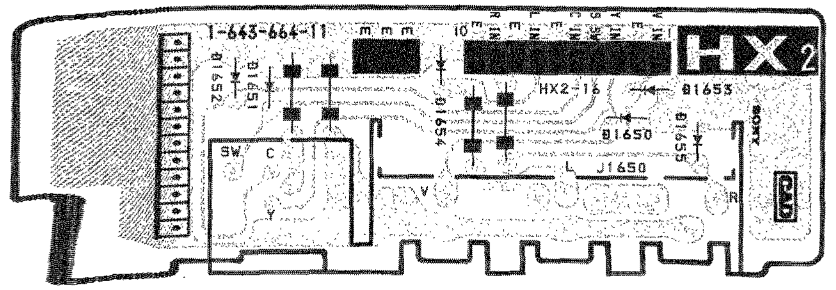


VC [V.PIN CORR.] **HX2** [VIDEO-3 FRONT TERMINAL]

— VC Board —

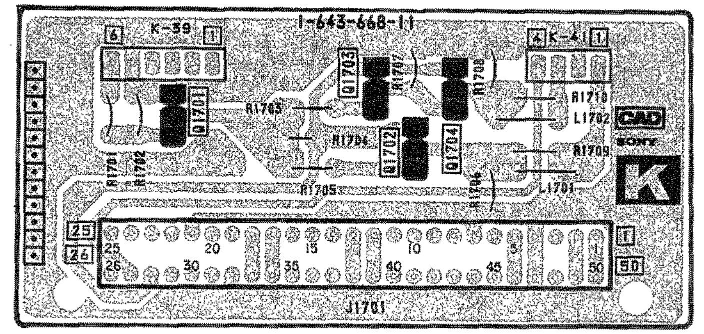


— HX2 Board —



K [ANT. SW CONT]

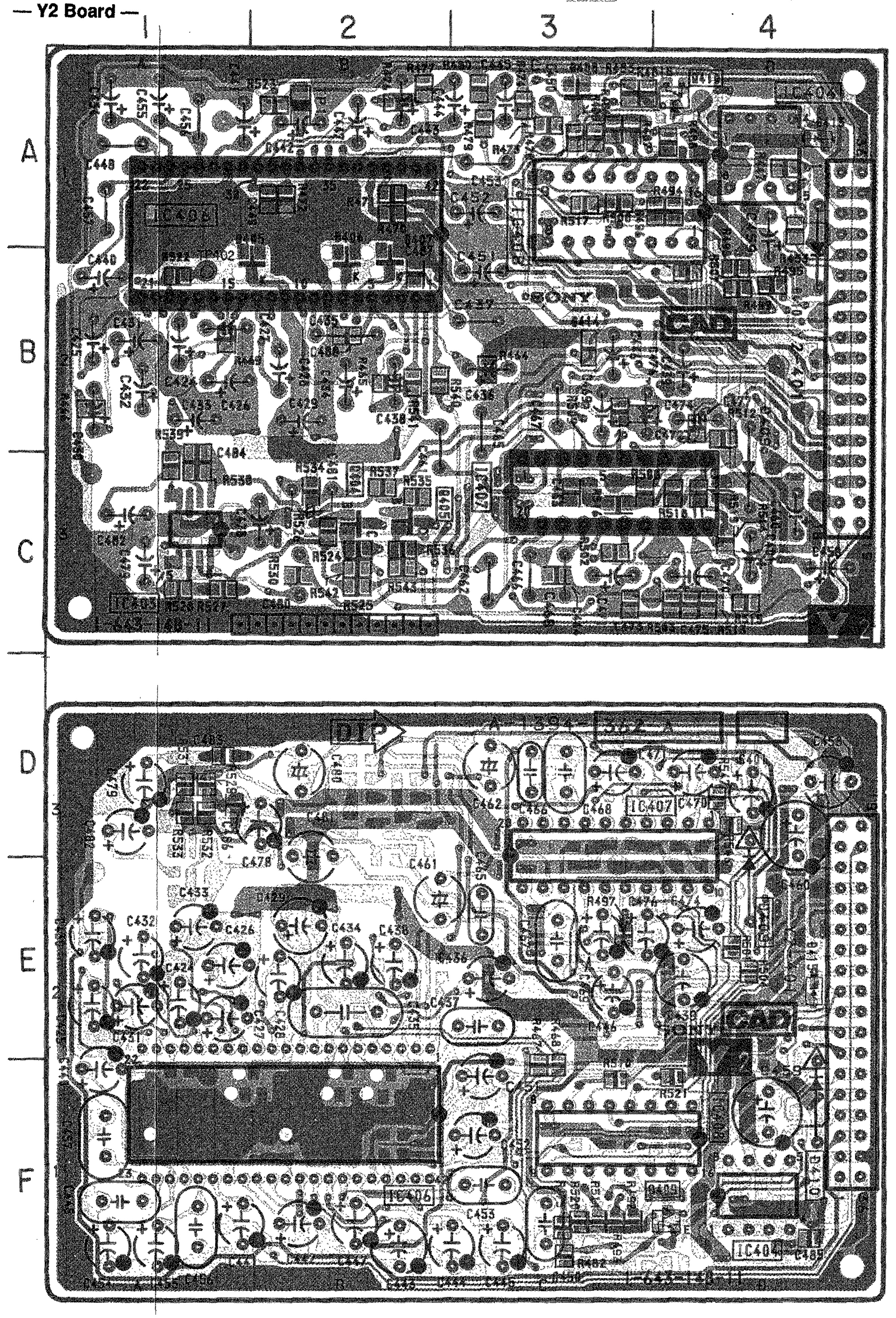
— K Board —



Y2 [MTS DECORDER, NVM, AUDIO CONT.]

- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

— Y2 Board —



— Y2 Board —

IC	
IC403	C-1
404	A-4
406	A-2
407	C-3
408	A-3
TRANSISTOR	
Q404	C-2
405	C-2
409	F-4
410	A-4
DIODE	
D405	B-2
406	B-2
407	B-2
408	A-3
409	C-4
410	A-4
413	A-4
414	B-3
415	E-4
TEST POINT	
TP1	A-2

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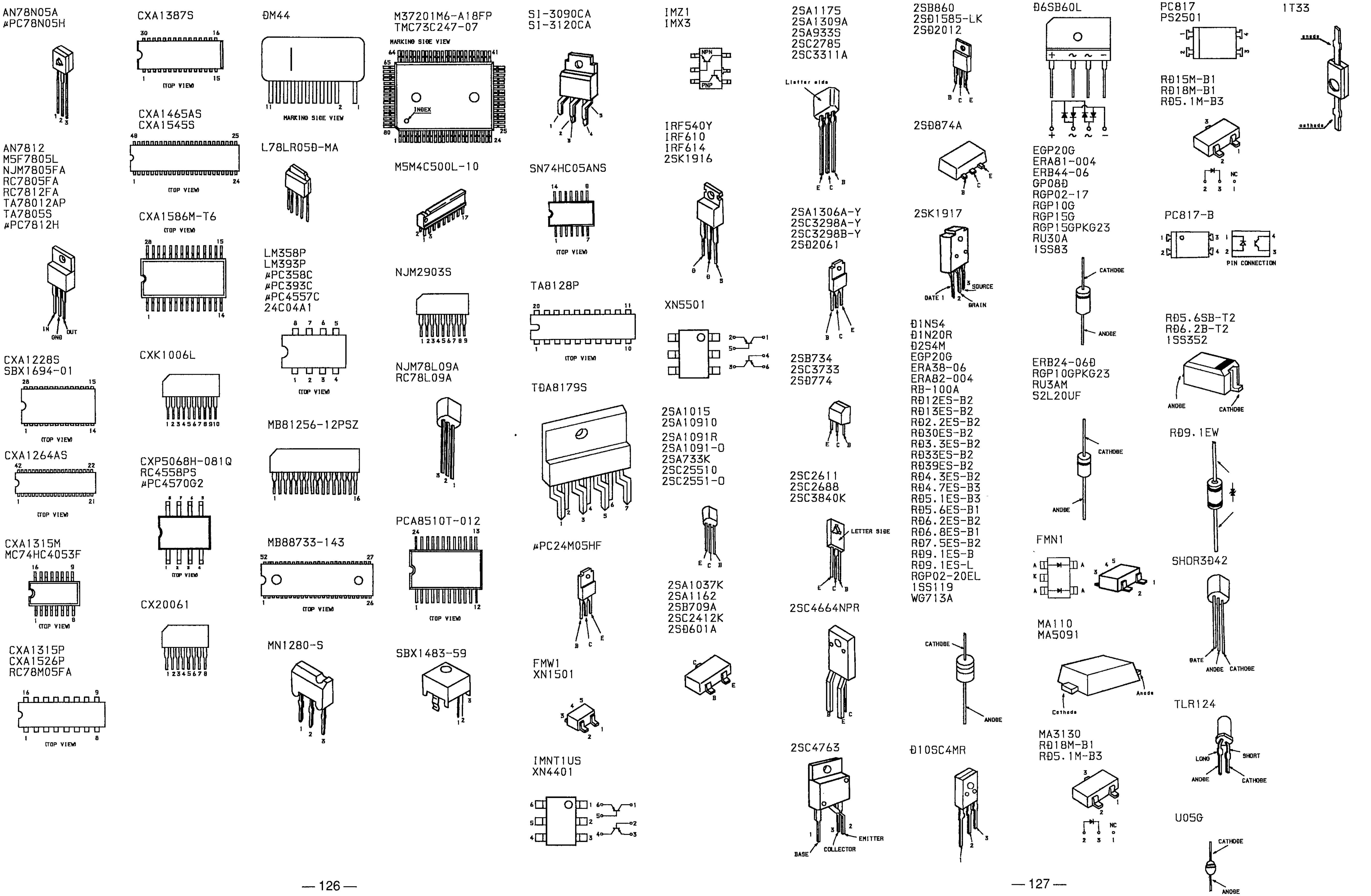
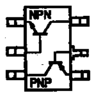
6-7. SEMICONDUCTORS



IMZ1
IMX3



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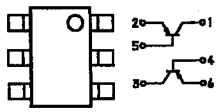
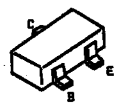
IRF614
2SK1916

XN5501



2SA1015
2SA1091O
2SA1091R
2SA1091-O
2SA733K
2SC2551O
2SC2551-O

2SA1037K
2SA1162
2SB709A
2SC2412K
2SD601A



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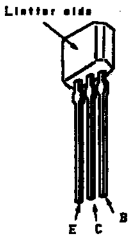
2SA1309A
2SA933S
2SC2785
2SC3311A



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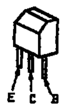
2SC3298A-Y
2SC3298B-Y
2SD2061

2SB734
2SC3733
2SD774



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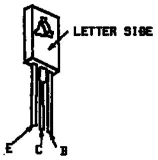
2SC3840K



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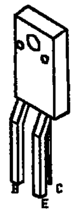

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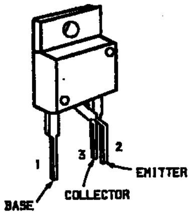

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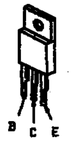
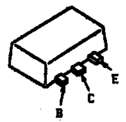
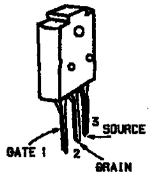
2SD1585-LK
2SD2012



2SD874A



2SK1917



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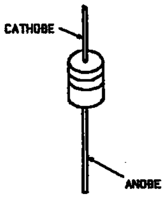
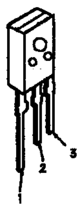
D1N20R
D2S4M
EGP20G
ERA38-06
ERA82-004
RB-100A
RD12ES-B2
RD13ES-B2
RD2.2ES-B2
RD30ES-B2
RD3.3ES-B2
RD33ES-B2
RD39ES-B2
RD4.3ES-B2
RD4.7ES-B3
RD5.1ES-B3
RD5.6ES-B1
RD6.2ES-B2
RD6.8ES-B1
RD7.5ES-B2
RD9.1ES-B
RD9.1ES-L
RGP02-20EL
1SS119
WG713A



D10SC4MR



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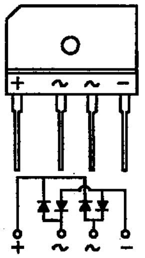

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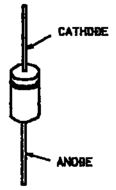
ERB44-06
GP08D
RGP02-17
RGP10G
RGP15G
RGP15GPKG23
RU30A
1SS83



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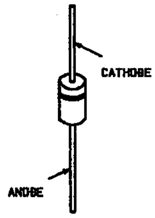
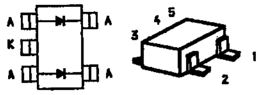
RU3AM
S2L20UF



FMN1



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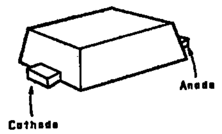
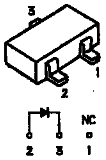
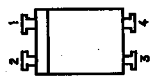
MA5091



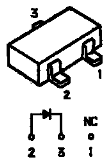
MA3130
RD18M-B1
RD5.1M-B3



PC817
PS2501



RD15M-B1
RD18M-B1
RD5.1M-B3



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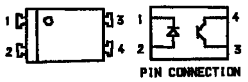
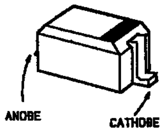
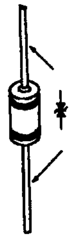


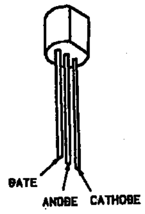
RD5.6SB-T2
RD6.2B-T2
1SS352



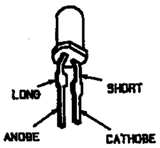
RD9.1EW



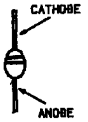
SHOR3D42



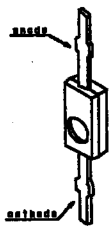
TLR124



U05G



1T33



SECTION 7
EXPLODED VIEWS

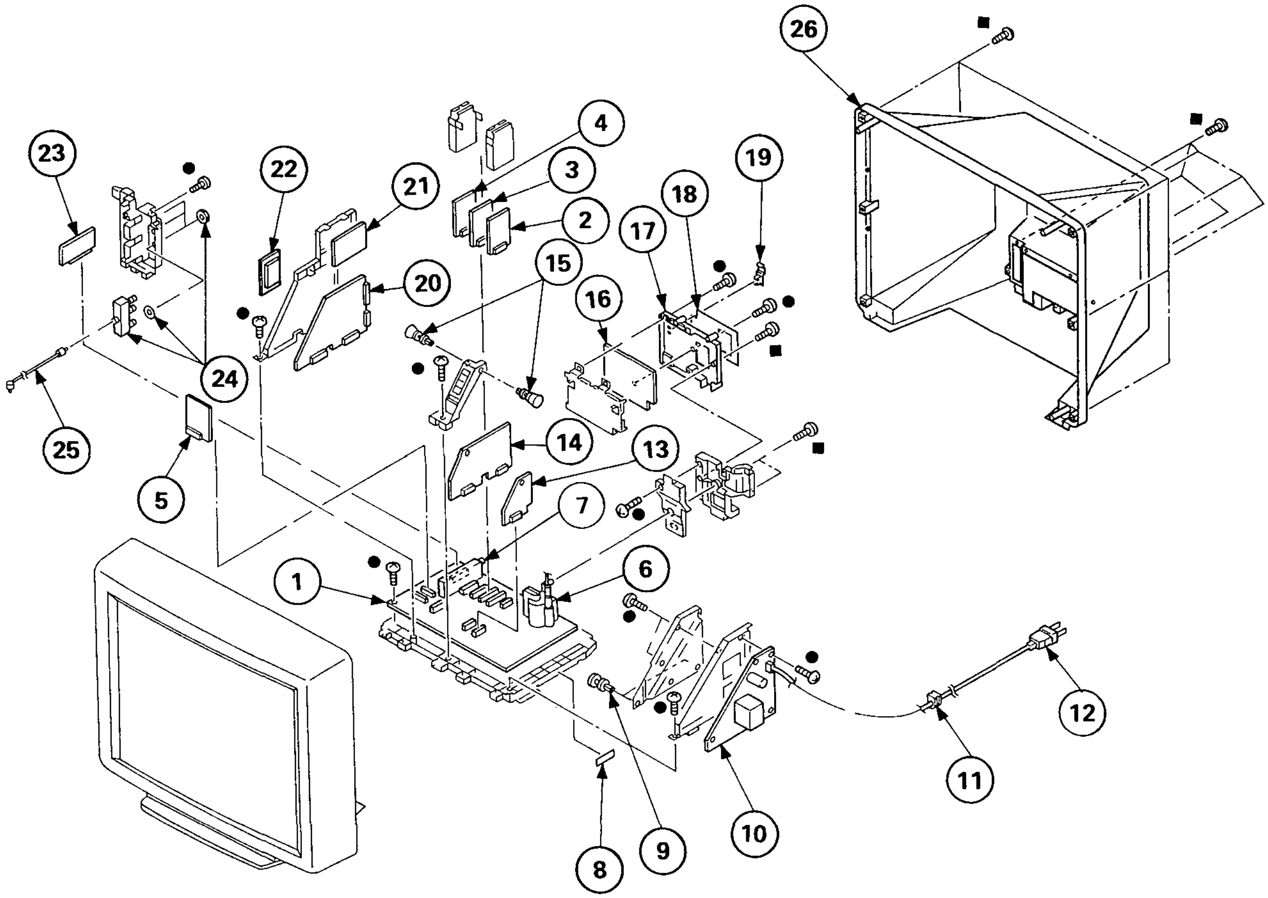
NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service
- The construction parts of an assembled part are indicated with a collation number in the remark column
- Items marked "*" are not stocked since they are seldom required for routine service Some delay should be anticipated when ordering these items

The components identified by shading and mark ⚠ are critical for safety
Replace only with part number specified

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite
Ne les remplacer que par une piece portant le numero specifie

7-1. CHASSIS

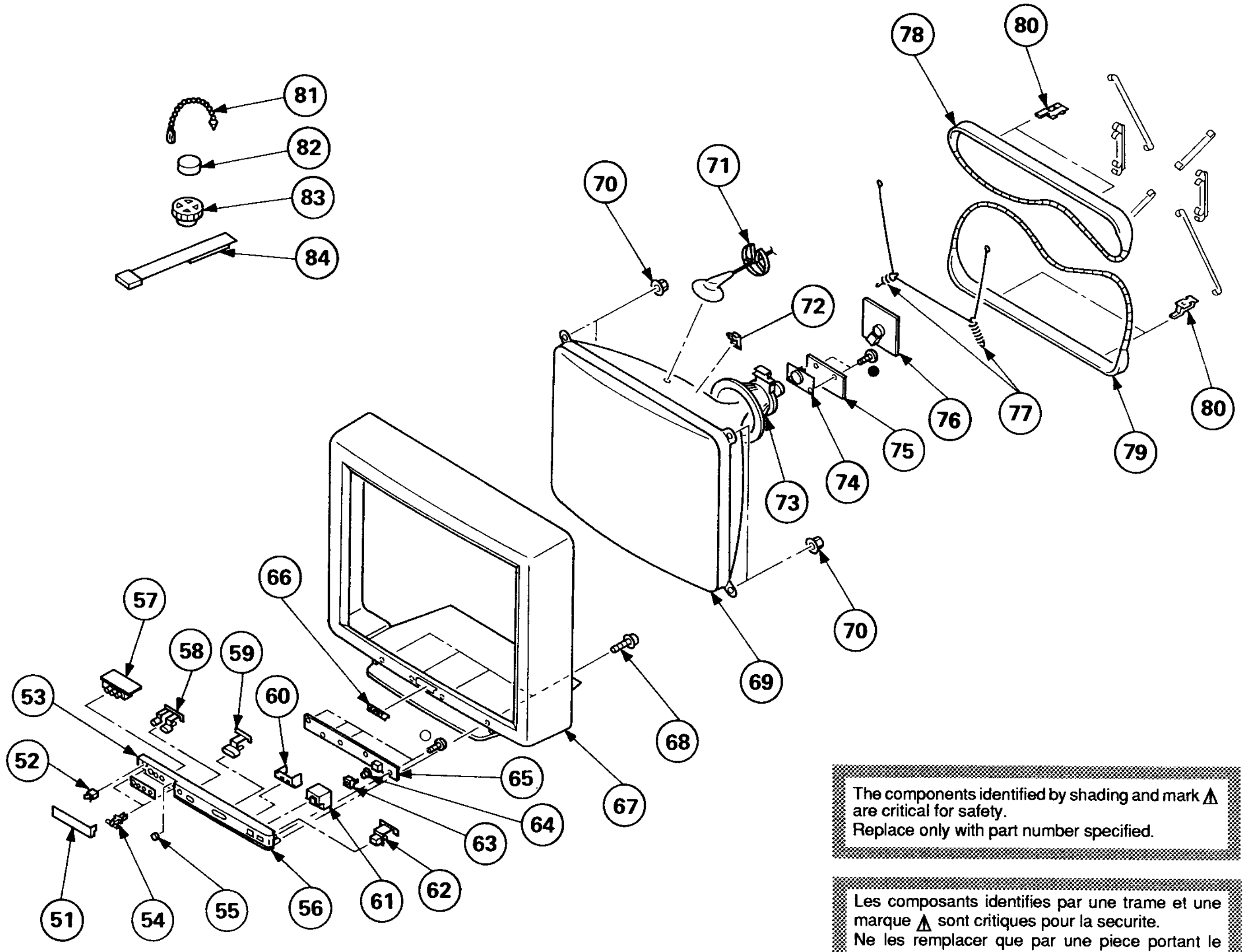
●: BVTP3x12 7-685-648-79
■: BVTP4x16 7-685-663-79



REF.NO.	PART NO.	DESCRIPTION	REMARK
1	*A-1296-948-A	A BOARD, COMPLETE	2~5
2	*A-1346-059-A	E1 BOARD, COMPLETE	
3	*A-1346-060-A	E2 BOARD, COMPLETE	
4	*A-1306-417-A	M BOARD, COMPLETE	
5	*A-1394-366-A	Y2 BOARD, COMPLETE	
6	⚠ 1-453-126-11	TRANSFORMER ASSY, FLYBACK (NX-3000A3)	
7	⚠ 1-693-102-11	TUNER (BTF-XA401)	
8	*3-703-044-26	LABEL, CAUTION	
9	4-374-303-01	RIVET, NYLON	
10	*A-1316-143-A	G BOARD, COMPLETE	
11	⚠ 4-334-223-03	GROMMET, AC CORD	
12	⚠ 1-696-002-12	CORD, POWER (WITH NOISE FILTER)	
13	*A-1347-067-A	VC BOARD, COMPLETE	
14	*A-1341-550-A	D BOARD, COMPLETE	
15	*4-397-418-01	RIVET, T TYPE	
16	*A-1373-330-A	UT BOARD. COMPLETE	
17	4-035-204-21	BRACKET, UT	
18	4-035-982-21	LABEL, UT	
19	4-329-127-00	CLAMP, CORD	
20	*A-1373-326-A	U BOARD, COMPLETE	
21	*1-643-669-11	S BOARD	
22	*A-1195-054-A	P4 BOARD, COMPLETE	
23	*1-643-668-11	K BOARD	
24	⚠ 1-417-377-11	SELECTOR, ANTENNA (AS-1)	
25	*1-555-400-00	CABLE, PIN	
26	4-035-007-01	COVER, REAR	

7-2. PICTURE TUBE

● : BVTP3x12 7-685-648-79
○ : BVTP4x16 7-685-650-79



The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

REF.NO.	PART NO.	DESCRIPTION	REMARK
51	4-035-199-11	DOOR, FRONT PANEL	
52	4-392-036-01	CATCHER, PUSH	
53	4-036-727-01	LABEL, JACK	
54	3-703-035-11	SHAFT, LID	
55	4-314-871-00	CUSHION	
56	4-035-057-11	PANEL, FRONT	
57	*1-643-664-11	HX2 BOARD	
58	4-035-179-01	BUTTON (A), MULTI	
59	4-035-154-01	BUTTON (B), MULTI	
60	4-035-120-01	GUIDE, LIGHT, LED	
61	4-035-119-01	FILTER (REMOTE CONTROL)	
62	4-035-153-01	BUTTON, POWER	
63	*4-381-686-01	BRACKET (B), LIGHT GUIDE	
64	*4-388-603-01	GUIDE, LIGHT	
65	*1-643-663-11	HX1 BOARD	
66	3-704-179-01	EMBLEM (NO.9), SONY	
67	4-035-034-01	CABINET (WITH BEZEL)	
68	4-319-520-11	SCREW, SPECIAL (+PW4X30)	
69	⚠ 8-733-731-05	PICTURE TUBE (M81KVA10X)	
70	4-387-204-01	NUT, SPECIAL, PICTURE TUBE	
71	*3-704-372-01	HOLDER, HV CABLE	
72	3-704-495-01	SPACER, DY	
73	⚠ 1-451-393-11	DEFLECTION YOKE (Y34EXA)	
74	⚠ 1-452-616-12	NECK ASSY, PICTURE TUBE (NA323)	
75	*A-1342-182-A	V BOARD, COMPLETE	
76	*A-1331-209-A	C BOARD, COMPLETE	
77	4-036-329-01	SPRING (B), TENSION	
78	⚠ 1-426-575-11	COIL, DEGAUSSING	
79	⚠ 1-426-576-11	COIL, DEGAUSSING	
80	4-033-744-01	CLIP	
81	4-308-870-00	CLIP, LEAD WIRE	
82	1-452-032-00	MAGNET, DISK: 10MM ϕ	
83	1-452-094-00	MAGNET, ROTATABLE DISK: 15MM ϕ	
84	X-4306-312-0	PERMALLOY ASSY, CONVERGENCE	

P4

SECTION 8
ELECTRICAL PARTS LIST

NOTE:

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F: nonflammable

When indicating parts by reference number, please include the board name.

CAPACITORS
- MF: μF, PF: μμF

COILS
- MMH: mH, UH: μH

- The components identified by ◼ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
Should replacement be required, replace only with the value originally used.

REF.NO.	PART NO.	DESCRIPTION			REMARK
	*A-1195-054-A	P4 BOARD, COMPLETE			
		******************			
		<CAPACITOR>			
C1201	1-124-261-00	ELECT	10MF	20%	50V
C1202	1-163-111-00	CERAMIC CHIP	56PF	5%	50V
C1203	1-126-177-11	ELECT	100MF	20%	6.3V
C1204	1-124-261-00	ELECT	10MF	20%	50V
C1205	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C1207	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C1208	1-124-589-11	ELECT	47MF	20%	16V
C1209	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C1210	1-124-589-11	ELECT	47MF	20%	16V
C1211	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C1212	1-124-589-11	ELECT	47MF	20%	16V
C1213	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C1214	1-124-589-11	ELECT	47MF	20%	16V
C1215	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C1216	1-163-123-00	CERAMIC CHIP	180PF	5%	50V
C1218	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C1219	1-124-589-11	ELECT	47MF	20%	16V
C1223	1-124-589-11	ELECT	47MF	20%	16V
C1224	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C1226	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C1227	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C1228	1-124-589-11	ELECT	47MF	20%	16V
C1230	1-130-483-00	MYLAR	0.01MF	5%	50V
C1231	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C1232	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C1233	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C1234	1-124-257-00	ELECT	2.2MF	20%	50V
C1236	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C1237	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C1238	1-124-465-00	ELECT	0.47MF	20%	50V
C1239	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C1242	1-124-589-11	ELECT	47MF	20%	16V
C1243	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C1244	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C1245	1-124-589-11	ELECT	47MF	20%	16V
C1246	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C1247	1-124-589-11	ELECT	47MF	20%	16V
C1249	1-124-261-00	ELECT	10MF	20%	50V
C1250	1-130-483-00	MYLAR	0.01MF	5%	50V
		<FILTER>			
FL1201	1-236-620-11	FILTER, LOW PASS			
FL1202	1-236-620-11	FILTER, LOW PASS			
FL1203	1-236-620-11	FILTER, LOW PASS			

REF.NO.	PART NO.	DESCRIPTION			REMARK
		<IC>			
IC1201	8-759-112-06	IC UPC78N05H			
IC1202	8-752-055-90	IC CXA1586M			
IC1203	8-759-112-06	IC UPC78N05H			
IC1204	8-741-694-01	IC SBX1694-01			
		<COIL>			
L1201	1-414-042-21	INDUCTOR	18UH		
L1202	1-414-042-21	INDUCTOR	18UH		
L1203	1-414-042-21	INDUCTOR	18UH		
L1204	1-410-484-11	INDUCTOR	150UH		
L1205	1-414-042-21	INDUCTOR	18UH		
L1206	1-414-042-21	INDUCTOR	18UH		
		<CONNECTOR>			
P432	*1-564-522-11	PLUG, CONNECTOR 7P			
		<TRANSISTOR>			
Q1201	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q1202	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q1203	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q1204	8-729-216-22	TRANSISTOR 2SA1162-G			
Q1205	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q1206	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q1207	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q1208	8-729-216-22	TRANSISTOR 2SA1162-G			
Q1209	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q1210	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q1211	8-729-216-22	TRANSISTOR 2SA1162-G			
Q1217	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q1218	8-729-216-22	TRANSISTOR 2SA1162-G			
Q1223	8-729-216-22	TRANSISTOR 2SA1162-G			
		<RESISTOR>			
R1201	1-216-001-00	METAL GLAZE	10	5%	1/10W
R1202	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R1203	1-216-025-00	METAL GLAZE	100	5%	1/10W
R1204	1-216-689-11	METAL GLAZE	39K	5%	1/10W
R1205	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R1206	1-216-645-11	METAL CHIP	560	0.50%	1/10W
R1207	1-216-035-00	METAL GLAZE	270	5%	1/10W
R1208	1-216-637-11	METAL CHIP	270	0.50%	1/10W
R1209	1-216-035-00	METAL GLAZE	270	5%	1/10W
R1210	1-216-689-11	METAL GLAZE	39K	5%	1/10W
R1211	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R1212	1-216-075-00	METAL GLAZE	12K	5%	1/10W
R1213	1-216-043-00	METAL GLAZE	560	5%	1/10W

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1214	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1215	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1216	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R1217	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1218	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1219	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R1220	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R1221	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R1222	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R1223	1-216-639-11	METAL CHIP	330	0.50%	1/10W	
R1224	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R1225	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R1228	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R1229	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1230	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1231	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1232	1-215-857-11	METAL OXIDE	10	5%	1W	F
R1233	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R1234	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R1235	1-215-859-00	METAL OXIDE	22	5%	1W	F
R1236	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1247	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1248	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R1249	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R1250	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1251	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1253	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1254	1-216-639-11	METAL CHIP	330	0.50%	1/10W	
R1255	1-216-620-11	METAL CHIP	51	0.50%	1/10W	
R1256	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1257	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1259	1-216-644-11	METAL CHIP	510	0.50%	1/10W	
R1260	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R1261	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1262	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1263	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1264	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1265	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1266	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R1267	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1268	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R1269	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1270	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R1271	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1272	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R1273	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1274	1-216-630-11	METAL CHIP	130	0.50%	1/10W	
R1275	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R1281	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1284	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1286	1-216-001-00	METAL GLAZE	10	5%	1/10W	

<CRYSTAL>

X1201	1-577-611-11	OSCILALTOR, CERAMIC
X1202	1-567-878-11	VIBRATOR, CRYSTAL

****

*A-1296-948-A A BOARD, COMPLETE
****

*4-341-751-01 EYELET (EY101~EY172)
*4-341-752-01 EYELET (EY2~EY55)
4-382-854-11 SCREW (M3X10), P, SW (+)

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
A2	*1-573-964-11	PIN, CONNECTOR (PC BOARD) 6P	
A3	*1-573-986-11	PIN, CONNECTOR (PC BOARD) 5P	
A4	*1-564-510-11	PLUG, CONNECTOR 7P	
A5	*1-564-507-11	PLUG, CONNECTOR 4P	
A12	1-573-297-11	CONNECTOR, BOARD TO BOARD 18P	
A13	1-573-297-11	CONNECTOR, BOARD TO BOARD 18P	
A14	1-573-296-11	CONNECTOR, BOARD TO BOARD 10P	
A15	1-573-296-11	CONNECTOR, BOARD TO BOARD 10P	
A18	1-573-296-11	CONNECTOR, BOARD TO BOARD 10P	
A21	*1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P	
A37	*1-564-514-11	PLUG, CONNECTOR 11P	
A49	*1-564-506-11	PLUG, CONNECTOR 3P	
A100	*1-573-979-11	CONNECTOR, BOARD TO BOARD 11P	
DY1	*1-580-798-11	CONNECTOR PIN (DY) 6P	
ES002	*1-573-960-11	CONNECTOR (FEMALE) 50P	

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C201	1-126-101-11	ELECT	100MF	20%	16V	
C210	1-102-121-00	CERAMIC	0.0022MF	10%	50V	
C211	1-101-006-00	CERAMIC	0.047MF		50V	
C213	1-126-103-11	ELECT	470MF	20%	16V	
C214	1-126-101-11	ELECT	100MF	20%	16V	
C215	1-124-910-11	ELECT	47MF	20%	50V	
C216	1-126-101-11	ELECT	100MF	20%	16V	
C217	1-124-126-00	ELECT	47MF	20%	25V	
C218	1-126-103-11	ELECT	470MF	20%	16V	
C219	1-136-169-00	FILM	0.22MF	5%	50V	
C220	1-124-910-11	ELECT	47MF	20%	50V	
C223	1-123-875-11	ELECT	10MF	20%	50V	
C224	1-124-261-00	ELECT	10MF	20%	50V	
C225	1-124-120-11	ELECT	220MF	20%	16V	
C226	1-124-621-11	ELECT	3300MF	20%	6.3V	
C299	1-126-101-11	ELECT	100MF	20%	16V	
C501	1-137-114-11	FILM	0.68MF	5%	200V	
C502	1-130-471-00	FILM	0.001MF	5%	50V	
C503	1-124-261-00	ELECT	10MF	20%	50V	
C504	1-136-161-00	FILM	0.047MF	5%	50V	
C505	1-124-790-11	ELECT	0.47MF	20%	100V	
C506	1-124-480-11	ELECT	470MF	20%	25V	
C507	1-130-473-00	MYLAR	0.0015MF	5%	50V	
C508	1-162-114-00	CERAMIC	0.0047MF		2KV	
C509	1-124-808-51	ELECT	10MF	20%	200V	
C510	1-102-110-00	CERAMIC	220PF	10%	50V	
C511	1-124-477-11	ELECT	47MF	20%	25V	
C512	1-162-318-11	CERAMIC	0.001MF	10%	500V	
C513	1-106-391-12	MYLAR	0.1MF	10%	200V	
C514	1-124-477-11	ELECT	47MF	20%	25V	
C515	1-162-117-00	CERAMIC	100PF	10%	500V	
C517	1-124-477-11	ELECT	47MF	20%	25V	
C518	1-136-161-00	FILM	0.047MF	5%	50V	
C519	1-124-472-11	ELECT	470MF	20%	10V	
C520 ⚠	1-161-731-51	CERAMIC	0.001MF	10%	2KV	
C521 ⚠	1-137-604-21	FILM	0.022MF	2%	200V	
C522	1-162-116-00	CERAMIC	680PF	10%	2KV	
C523	1-124-465-00	ELECT	0.47MF	20%	50V	
C524	1-130-487-00	MYLAR	0.022MF	5%	50V	
C525	1-162-116-00	CERAMIC	680PF	10%	2KV	
C526 ⚠	1-137-515-91	FILM	0.056MF	3%	400V	
C527	1-136-167-00	FILM	0.15MF	5%	50V	
C528	1-106-359-00	MYLAR	0.0047MF	10%	200V	

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Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION			REMARK
C529	1-136-161-00	FILM	0.047MF	5%	50V
C530	1-136-105-00	FILM	0.33MF	5%	200V
C531	1-124-634-11	ELECT	1MF	20%	250V
C532	1-124-477-11	ELECT	47MF	20%	25V
C533	1-137-516-11	FILM	1.2MF	5%	200V
C534	1-137-114-11	FILM	0.68MF	5%	200V
C535	1-124-480-11	ELECT	470MF	20%	25V
C536	1-102-228-00	CERAMIC	470PF	10%	500V
C537	1-106-343-00	MYLAR	0.001MF	10%	100V
C538	1-106-391-12	MYLAR	0.1MF	10%	200V
C539	1-123-950-00	ELECT	47MF	20%	250V
C540	1-124-480-11	ELECT	470MF	20%	25V
C541	1-102-228-00	CERAMIC	470PF	10%	500V
C542	1-106-387-00	MYLAR	0.068MF	10%	200V
C543	1-129-898-00	FILM	0.0022MF	5%	630V
C544	1-124-797-11	ELECT	0.47MF	20%	160V
C545	1-102-244-00	CERAMIC	220PF	10%	500V
C546	1-123-024-21	ELECT	33MF		160V
C547	1-130-471-00	MYLAR	0.001MF	5%	50V
C548	1-130-467-00	MYLAR	470PF	5%	50V
C549	1-124-261-00	ELECT	10MF	20%	50V
C550	1-129-702-00	FILM	0.001MF	10%	630V
C551	1-130-471-00	MYLAR	0.001MF	5%	50V
C552	1-126-176-11	ELECT	220MF	20%	10V
C553	1-124-261-00	ELECT	10MF	20%	50V
C554 ⚠	1-161-731-51	CERAMIC	0.001MF	10%	2KV
C555	1-123-947-00	ELECT	10MF	20%	250V
C557	1-124-465-00	ELECT	0.47MF	20%	50V
C559	1-129-718-00	FILM	0.022MF	5%	630V
C560	1-136-169-00	FILM	0.22MF	5%	50V
C561	1-124-261-00	ELECT	10MF	20%	50V
C562	1-124-499-11	ELECT	1MF	20%	50V
C563	1-130-491-00	MYLAR	0.047MF	5%	50V
C564	1-130-495-00	MYLAR	0.1MF	5%	50V
C565	1-130-495-00	MYLAR	0.1MF	5%	50V
C569	1-130-497-00	MYLAR	0.15MF	5%	50V
C570	1-130-471-00	MYLAR	0.001MF	5%	50V
C571	1-130-651-00	FILM	0.001MF	2%	100V
C572	1-124-907-11	ELECT	10MF	20%	50V
C573	1-130-471-00	MYLAR	0.001MF	5%	50V
C575	1-102-038-00	CERAMIC	0.001MF		500V
C576	1-106-355-12	MYLAR	0.0033MF		200V
C1501	1-126-233-11	ELECT	22MF	20%	50V
C1502	1-126-301-11	ELECT	1MF	20%	50V
C1503	1-102-114-00	CERAMIC	470PF	10%	50V
C1504	1-124-480-11	ELECT	470MF	20%	25V
C1505	1-124-911-11	ELECT	220MF	20%	50V
C1506	1-136-171-00	FILM	0.33MF	5%	50V
C1507	1-106-222-00	MYLAR	0.12MF	10%	100V
C1508	1-124-480-11	ELECT	470MF	20%	25V
C1509	1-124-122-11	ELECT	100MF	20%	50V
C1511	1-164-014-11	CERAMIC	5PF	0.25PF	50V

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D201	8-719-110-13	DIODE RD9.1ES-B2	
D202	8-719-110-13	DIODE RD9.1ES-B2	
D204	8-719-911-19	DIODE 1SS119	
D205	8-719-911-19	DIODE 1SS119	
D206	8-719-911-19	DIODE 1SS119	
D207	8-719-911-19	DIODE 1SS119	
D208	8-719-911-19	DIODE 1SS119	
D209	8-719-510-48	DIODE D1N20R	
D213	8-719-110-78	DIODE RD33ES-B2	
D501	8-719-018-82	DIODE RGP02-20EL-6394	
D502 ⚠	8-719-302-43	DIODE EL1Z	
D503	8-719-970-87	DIODE ERA38-06	
D504	8-719-911-19	DIODE 1SS119	
D506	8-719-109-90	DIODE RD5.6ES-B3	
D508	8-719-109-88	DIODE RD5.6E3S-B1	
D509	8-719-110-03	DIODE RD7.5ES-B2	
D510	8-719-911-19	DIODE 1SS119	
D511	8-719-300-33	DIODE RU-3AM	
D512	8-719-911-55	DIODE U05G	
D513	8-719-911-55	DIODE U05G	
D514	8-719-312-72	DIODE RU30A	
D515	8-719-300-33	DIODE RU-3AM	
D516	8-719-979-85	DIODE EGP20G	
D517	8-719-943-06	DIODE ERB24-06D	
D518	8-719-109-93	DIODE RD6.2ES-B2	
D521	8-719-911-19	DIODE 1SS119	
D522	8-719-110-72	DIODE RD30ES-B2	
D524	8-719-976-64	DIODE RGP02-17	
D525	8-719-911-19	DIODE 1SS119	
D527	8-719-110-78	DIODE RD33ES-B2	
D529	8-719-911-19	DIODE 1SS119	
D530	8-719-911-19	DIODE 1SS119	
D1408	8-719-911-19	DIODE 1SS119	
D1412	8-719-911-19	DIODE 1SS119	
D1413	8-719-911-19	DIODE 1SS119	
D1414	8-719-911-19	DIODE 1SS119	
D1503	8-719-911-55	DIODE U05G	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC201	8-749-920-58	IC SI-3090CA	
IC204	8-759-231-53	IC TA7805S	
IC205	8-759-144-84	IC UPC24M05HF	
IC206	8-759-982-13	IC RC7812FA	
IC501	8-759-987-16	IC LM393P	
IC502	1-809-845-11	MODULE, PROTECTOR PM-30	
IC503	8-759-987-16	IC LM393P	
IC504	8-759-982-13	IC RC7812FA	
IC1501	8-759-506-46	IC TDA8179S	

<JACK>

REF.NO.	PART NO.	DESCRIPTION	REMARK
J201	1-507-562-00	JACK	
J202	1-507-562-00	JACK	

<COIL>

REF.NO.	PART NO.	DESCRIPTION		REMARK
L201	1-408-408-00	INDUCTOR	8.2UH	
L205	1-408-421-00	INDUCTOR	100UH	
L208	1-410-785-31	INDUCTOR	0.22UH	
L210	1-408-408-00	INDUCTOR	8.2UH	
L501	1-459-104-00	COIL, WITH CORE		
L502	1-412-552-31	INDUCTOR	2.2MMH	
L504	1-410-455-11	INDUCTOR	10MMH	
L507	1-459-483-00	COIL (WITH CORE)		
L508	1-421-541-00	COIL, CHOKE 1000UH		
L509	1-459-104-00	COIL, WITH CORE		
L510 ⚠	1-460-197-11	COIL, FERRITE (PMC)		
L511	1-412-519-11	INDUCTOR	3.3UH	
L512	1-412-531-31	INDUCTOR	33UH	
L513	1-412-519-11	INDUCTOR	3.3UH	
L514	1-459-123-00	COIL,DUST CORE(PAC)		

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

- The components identified by ⧓ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
  Should replacement be required, replace only with the value originally used.

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REF.NO.	PART NO.	DESCRIPTION				REMARK
L515	1-410-645-31	INDUCTOR	100UH			
L520	1-412-531-31	INDUCTOR	33UH			
L1501	1-412-531-31	INDUCTOR	33UH			
L1503	1-412-531-31	INDUCTOR	33UH			
		<TRANSISTOR>				
Q201	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q202	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q501	8-729-011-07	TRANSISTOR	2SC4763(LBSONY)			
Q502	8-729-140-97	TRANSISTOR	2SB734-34			
Q503	8-729-011-06	TRANSISTOR	2SC3840K			
Q504	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q505	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q506	8-729-011-00	TRANSISTOR	2SK1916-53F87			
Q507	8-729-119-80	TRANSISTOR	2SC2688-LK			
Q508	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q509	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q510	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q511	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q512	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q513	8-729-140-96	TRANSISTOR	2SD774-34			
Q515	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q516	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q1501	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q1502	8-729-119-78	TRANSISTOR	2SC2785-HFE			
		<RESISTOR>				
R201	1-249-405-11	CARBON	100	5%	1/4W	F
R202	1-249-405-11	CARBON	100	5%	1/4W	F
R210	1-249-441-11	CARBON	100K	5%	1/4W	
R211	1-249-425-11	CARBON	4.7K	5%	1/4W	
R214	1-249-377-11	CARBON	0.47	5%	1/4W	F
R219	1-249-426-11	CARBON	5.6K	5%	1/4W	
R221	1-249-409-11	CARBON	220	5%	1/4W	
R222	1-249-434-11	CARBON	27K	5%	1/4W	
R223	1-249-433-11	CARBON	22K	5%	1/4W	
R224	1-249-409-11	CARBON	220	5%	1/4W	
R225	1-249-424-11	CARBON	3.9K	5%	1/4W	
R226	1-249-417-11	CARBON	1K	5%	1/4W	
R230	1-215-923-00	METAL OXIDE	10K	5%	3W	F
R231	1-249-409-11	CARBON	220	5%	1/4W	F
R232	1-216-380-11	METAL OXIDE	8.2	5%	2W	F
R233	1-249-409-11	CARBON	220	5%	1/4W	
R234	1-249-409-11	CARBON	220	5%	1/4W	
R235	1-249-409-11	CARBON	220	5%	1/4W	
R236	1-249-409-11	CARBON	220	5%	1/4W	
R237	1-249-409-11	CARBON	220	5%	1/4W	
R238	1-249-409-11	CARBON	220	5%	1/4W	
R239	1-249-409-11	CARBON	220	5%	1/4W	
R240	1-249-482-11	CARBON	4.7	5%	1/2W	F
R501	1-249-431-11	CARBON	15K	5%	1/4W	
R502	1-249-431-11	CARBON	15K	5%	1/4W	
R504	1-215-869-11	METAL OXIDE	1K	5%	1W	F
R505	1-215-449-00	METAL	15K	1%	1/4W	
R506	1-249-423-11	CARBON	3.3K	5%	1/4W	
R507	1-249-411-11	CARBON	330	5%	1/4W	
R508	1-249-435-11	CARBON	33K	5%	1/4W	
R509	1-249-441-11	CARBON	100K	5%	1/4W	
R510	1-249-409-11	CARBON	220	5%	1/4W	F
R511	1-249-398-11	CARBON	27	5%	1/4W	F
R512	1-249-423-11	CARBON	3.3K	5%	1/4W	
R513	1-249-425-11	CARBON	4.7K	5%	1/4W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R514	1-249-438-11	CARBON	56K	5%	1/4W	
R515	1-249-433-11	CARBON	22K	5%	1/4W	
R516	1-249-419-11	CARBON	1.5K	5%	1/4W	
R517	1-216-361-00	METAL OXIDE	0.22	5%	2W	F
R518	1-249-437-11	CARBON	47K	5%	1/4W	
R519	1-247-755-11	CARBON	1.8K	5%	1/2W	F
R520	1-249-441-11	CARBON	100K	5%	1/4W	
R521	1-216-481-11	METAL OXIDE	1.2K	5%	3W	F
R522	1-215-917-11	METAL OXIDE	1K	5%	3W	F
R523	1-249-425-11	CARBON	4.7K	5%	1/4W	
R524	1-215-445-00	METAL	10K	1%	1/4W	
R526	1-249-401-11	CARBON	47	5%	1/4W	
R527	1-249-417-11	CARBON	1K	5%	1/4W	
R528	1-247-903-00	CARBON	1M	5%	1/4W	
R529	1-249-429-11	CARBON	10K	5%	1/4W	
R530	1-215-457-00	METAL	33K	1%	1/4W	
R531	1-249-432-11	CARBON	18K	5%	1/4W	
R532	1-249-437-11	CARBON	47K	5%	1/4W	
R533	1-247-887-00	CARBON	220K	5%	1/4W	
R534	1-215-472-00	METAL	130K	1%	1/4W	
R536	1-249-429-11	CARBON	10K	5%	1/4W	
R537	1-215-465-00	METAL	68K	1%	1/4W	
R538	1-247-883-00	CARBON	150K	5%	1/4W	
R539	1-249-425-11	CARBON	4.7K	5%	1/4W	
R540	1-249-437-11	CARBON	47K	5%	1/4W	
R541	1-249-397-11	CARBON	22	5%	1/4W	F
R542	1-215-888-00	METAL OXIDE	220	5%	2W	F
R543	1-249-411-11	CARBON	330	5%	1/4W	
R544	1-249-441-11	CARBON	100K	5%	1/4W	
R546	1-215-441-00	METAL	6.8K	1%	1/4W	
R547	1-249-441-11	CARBON	100K	5%	1/4W	
R548	1-215-889-00	METAL OXIDE	330	5%	2W	F
R549	1-215-881-11	METAL OXIDE	15	5%	2W	F
R550	1-215-909-11	METAL OXIDE	47	5%	3W	F
R551	1-247-743-11	CARBON	220	5%	1/2W	F
R552	1-249-389-11	CARBON	4.7	5%	1/4W	F
R553	1-249-377-11	CARBON	0.47	5%	1/4W	F
R554	1-249-377-11	CARBON	0.47	5%	1/4W	F
R556	1-216-459-00	METAL OXIDE	2.7K	5%	2W	F
R558	1-259-882-11	CARBON	3.3M	5%	1/4W	
R559	1-216-439-00	METAL OXIDE	12K	5%	1W	F
R560	1-247-901-11	CARBON	820K	5%	1/4W	
R561	1-249-410-11	CARBON	270	5%	1/4W	
R562	1-215-450-00	METAL	16K	1%	1/4W	
R564	1-215-475-00	METAL	180K	1%	1/4W	
⧓R565 ⚠		CARBON			1/4W	
⧓R566 ⚠		CARBON			1/4W	
R567	1-249-425-11	CARBON	4.7K	5%	1/4W	
R568	1-249-425-11	CARBON	4.7K	5%	1/4W	
R569	1-249-417-11	CARBON	1K	5%	1/4W	
R570	1-249-402-11	CARBON	56	5%	1/4W	
R572	1-249-393-11	CARBON	10	5%	1/4W	F
R573	1-249-393-11	CARBON	10	5%	1/4W	F
R574	1-215-882-00	METAL OXIDE	22	5%	2W	F
R575	1-216-459-00	METAL OXIDE	2.7K	5%	2W	F
R576	1-249-417-11	CARBON	1K	5%	1/4W	F
R577	1-215-887-00	METAL OXIDE	150	5%	2W	F
R578	1-216-449-11	METAL OXIDE	56	5%	2W	F
R579	1-249-441-11	CARBON	100K	5%	1/4W	
R580	1-249-441-11	CARBON	100K	5%	1/4W	
R583	1-249-441-11	CARBON	100K	5%	1/4W	
R584	1-215-463-00	METAL	56K	1%	1/4W	
R587	1-249-441-11	CARBON	100K	5%	1/4W	
R588	1-249-415-11	CARBON	680	5%	1/4W	

A **M**

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK
R589	1-249-437-11	CARBON	47K	5%	1/4W	
R590	1-249-431-11	CARBON	15K	5%	1/4W	
R591	1-247-887-00	CARBON	220K	5%	1/4W	
R592	1-249-429-11	CARBON	10K	5%	1/4W	
R593	1-215-878-00	METAL OXIDE	33K	5%	1W	F
R594	1-247-903-00	CARBON	1M	5%	1/4W	
R595	1-249-440-11	CARBON	82K	5%	1/4W	
R596	1-249-432-11	CARBON	18K	5%	1/4W	
R597	1-249-437-11	CARBON	47K	5%	1/4W	
R599	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1501	1-215-449-00	METAL	15K	1%	1/4W	
R1502	1-215-433-00	METAL	3.3K	1%	1/4W	
R1503	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1505	1-249-433-11	CARBON	22K	5%	1/4W	
R1506	1-218-642-91	METAL OXIDE	100K	5%	1W	F
R1507	1-249-436-11	CARBON	39K	5%	1/4W	
R1508	1-215-453-00	METAL	22K	1%	1/4W	
R1509	1-215-455-00	METAL	27K	1%	1/4W	
R1510	1-249-383-11	CARBON	1.5	5%	1/4W	F
R1511	1-215-888-00	METAL OXIDE	220	5%	2W	F
R1512	1-216-369-00	METAL OXIDE	1	5%	2W	F
R1513	1-249-436-11	CARBON	39K	5%	1/4W	
R4002	1-249-385-11	CARBON	2.2	5%	1/4W	F
R4003	1-216-361-00	METAL OXIDE	0.22	5%	2W	F
R4004	1-216-374-00	METAL OXIDE	2.7	5%	2W	F
R4006	1-216-396-11	METAL OXIDE	3.9	5%	3W	F

<SPARK GAP>

REF.NO.	PART NO.	DESCRIPTION
SG501	1-519-422-11	GAP, SPARK

<TRANSFORMER>

REF.NO.	PART NO.	DESCRIPTION
T501 ⚠	1-453-126-11	TRANSFORMER ASSY, FLYBACK (NX-3000A3)
T502 ⚠	1-460-199-11	TRANSFORMER (HLT)
T503	1-437-195-11	TRANSFORMER, HORIZONTAL DRIVE
T504	1-424-584-11	TRANSFORMER, DYNAMIC FOCUS

<THERMISTOR>

REF.NO.	PART NO.	DESCRIPTION
THP150	1-807-925-11	THERMISTOR

<TUNER>

REF.NO.	PART NO.	DESCRIPTION
TU101 ⚠	1-693-102-11	TUNER (BTF-XA401)

****

*A-1306-417-A M BOARD, COMPLETE
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<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C001	1-124-261-00	ELECT	10MF	20%	50V	
C002	1-163-125-00	CERAMIC CHIP	220PF	5%	50V	
C003	1-136-161-00	FILM	0.047MF	5%	50V	
C004	1-126-301-11	ELECT	1MF	20%	50V	
C005	1-163-125-00	CERAMIC CHIP	220PF	5%	50V	
C014	1-124-910-11	ELECT	47MF	20%	50V	
C015	1-124-464-11	ELECT	0.22MF	20%	50V	
C017	1-124-589-11	ELECT	47MF	20%	16V	
C018	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V	
C019	1-164-695-11	CERAMIC CHIP	0.0022MF	5%	50V	
C020	1-163-241-11	CERAMIC CHIP	39PF	5%	50V	
C021	1-163-239-11	CERAMIC CHIP	33PF	5%	50V	
C029	1-163-115-00	CERAMIC CHIP	82PF	5%	50V	
C030	1-163-115-00	CERAMIC CHIP	82PF	5%	50V	
C034	1-163-125-00	CERAMIC CHIP	220PF	5%	50V	
C035	1-163-125-00	CERAMIC CHIP	220PF	5%	50V	
C036	1-163-125-00	CERAMIC CHIP	220PF	5%	50V	
C041	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C042	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C045	1-163-125-00	CERAMIC CHIP	220PF	5%	50V	
C047	1-124-261-00	ELECT	10MF	20%	50V	
C048	1-124-261-00	ELECT	10MF	20%	50V	
C049	1-124-261-00	ELECT	10MF	20%	50V	
C055	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V	
C064	1-163-121-00	CERAMIC CHIP	150PF	5%	50V	
C065	1-124-257-00	ELECT	2.2MF	20%	50V	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION
D001	8-719-404-46	DIODE MA110
D002	8-719-404-46	DIODE MA110
D003	8-719-404-46	DIODE MA110
D004	8-719-404-46	DIODE MA110
D005	8-719-404-46	DIODE MA110
D006	8-719-404-46	DIODE MA110
D007	8-719-404-46	DIODE MA110
D008	8-719-404-46	DIODE MA110
D009	8-719-404-46	DIODE MA110
D010	8-713-300-57	DIODE 1T33
D011	8-719-404-46	DIODE MA110
D012	8-719-404-46	DIODE MA110
D015	8-719-404-46	DIODE MA110

<IC>

REF.NO.	PART NO.	DESCRIPTION
IC001	8-759-095-47	IC TMC73C247-08
IC002	8-759-403-44	IC MN1280-S

<COIL>

REF.NO.	PART NO.	DESCRIPTION	
L001	1-408-409-00	INDUCTOR	10UH
L002	1-410-476-11	INDUCTOR	33UH

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION
M001	*1-573-965-11	PIN, CONNECTOR (PC BOARD) 50P
M39	*1-564-521-11	PLUG, CONNECTOR 6P
M45	*1-564-523-11	PLUG, CONNECTOR 8P

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION
Q001	8-729-216-22	TRANSISTOR 2SA1162-G
Q002	8-729-216-22	TRANSISTOR 2SA1162-G
Q003	8-729-216-22	TRANSISTOR 2SA1162-G
Q004	8-729-920-74	TRANSISTOR 2SC2412K-QR
Q005	8-729-920-74	TRANSISTOR 2SC2412K-QR
Q006	8-729-216-22	TRANSISTOR 2SA1162-G
Q007	8-729-216-22	TRANSISTOR 2SA1162-G
Q008	8-729-920-74	TRANSISTOR 2SC2412K-QR
Q009	8-729-920-74	TRANSISTOR 2SC2412K-QR
Q010	8-729-920-74	TRANSISTOR 2SC2412K-QR
Q011	8-729-920-74	TRANSISTOR 2SC2412K-QR
Q012	8-729-920-74	TRANSISTOR 2SC2412K-QR
Q013	8-729-216-22	TRANSISTOR 2SA1162-G
Q014	8-729-920-74	TRANSISTOR 2SC2412K-QR

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R001	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R002	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R003	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R004	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R005	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R006	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R007	1-216-027-00	METAL GLAZE	120	5%	1/10W	
R008	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R009	1-216-027-00	METAL GLAZE	120	5%	1/10W	
R011	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R012	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R013	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R014	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R015	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R016	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R017	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R018	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R019	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R020	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R021	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R022	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R023	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R024	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R025	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R026	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R027	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R028	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R029	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R030	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R031	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R032	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R033	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R034	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R035	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R036	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R037	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R038	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R039	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R040	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R041	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R042	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R043	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R044	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R045	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R046	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R047	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R048	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R049	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R050	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R051	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R052	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R053	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R054	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R055	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R056	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R057	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R058	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R059	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R060	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R063	1-216-033-00	METAL GLAZE	220	5%	1/10W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R064	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R065	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R066	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R067	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R068	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R069	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R070	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R071	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R072	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R073	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R074	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R075	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R076	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R077	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R078	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R079	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R080	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R081	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R082	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R083	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R084	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R085	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R086	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R087	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R088	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R089	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R090	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R091	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R093	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R094	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R095	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R096	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R097	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R098	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R099	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R100	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R101	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R102	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R103	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R104	1-216-033-00	METAL GLAZE	220	5%	1/10W	

<CRYSTAL>

X001	1-579-743-11	VIBRATOR, CRYSTAL

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*A-1346-059-A E1 BOARD, COMPLETE
****

<CAPACITOR>

C301	1-163-010-11	CERAMIC CHIP	0.0012MF	10%	50V
C303	1-126-157-11	ELECT	10MF	20%	16V
C304	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C305	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C306	1-102-971-00	CERAMIC	82PF	5%	50V
C309	1-164-505-11	CERAMIC CHIP	2.2MF		16V
C310	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C314	1-124-915-11	ELECT	10MF	20%	16V
C315	1-164-505-11	CERAMIC CHIP	2.2MF		16V
C319	1-126-157-11	ELECT	10MF	20%	16V
C320	1-124-465-00	ELECT	0.47MF	20%	50V
C321	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C322	1-163-003-11	CERAMIC CHIP	330PF	10%	50V

E1

REF.NO.	PART NO.	DESCRIPTION				REMARK
C323	1-163-099-00	CERAMIC CHIP	18PF	5%	50V	
C324	1-124-234-00	ELECT	22MF	20%	16V	
C325	1-137-502-11	FILM CHIP	0.1MF	5%	25V	
C326	1-137-502-11	FILM CHIP	0.1MF	5%	25V	
C327	1-137-502-11	FILM CHIP	0.1MF	5%	25V	
C328	1-126-157-11	ELECT	10MF	20%	16V	
C329	1-126-157-11	ELECT	10MF	20%	16V	
C330	1-126-157-11	ELECT	10MF	20%	16V	
C331	1-126-301-11	ELECT	1MF	20%	50V	
C332	1-124-584-00	ELECT	100MF	20%	10V	
C333	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V	
C334	1-137-491-11	FILM CHIP	0.1MF	5%	25V	
C335	1-136-169-00	FILM	0.22MF	5%	50V	
C336	1-126-301-11	ELECT	1MF	20%	50V	
C337	1-126-301-11	ELECT	1MF	20%	50V	
C338	1-124-584-00	ELECT	100MF	20%	10V	
C339	1-124-791-11	ELECT	1MF	20%	50V	
C340	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C341	1-126-157-11	ELECT	10MF	20%	16V	
C342	1-124-465-00	ELECT	0.47MF	20%	50V	
C343	1-124-589-11	ELECT	47MF	20%	16V	
C344	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C345	1-124-767-00	ELECT	2.2MF	20%	50V	
C346	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C347	1-136-169-00	FILM	0.22MF	5%	50V	
C348	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C349	1-126-301-11	ELECT	1MF	20%	50V	
C350	1-126-301-11	ELECT	1MF	20%	50V	
C351	1-163-002-11	CERAMIC CHIP	270PF	10%	50V	
C352	1-164-489-11	CERAMIC CHIP	0.22MF	10%	16V	
C353	1-126-163-11	ELECT	4.7MF	20%	50V	
C354	1-136-169-00	FILM	0.22MF	5%	50V	
C355	1-124-465-00	ELECT	0.47MF	20%	50V	
C356	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
C357	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C358	1-124-767-00	ELECT	2.2MF	20%	50V	
C360	1-137-491-11	FILM CHIP	0.1MF	5%	25V	
C361	1-126-301-11	ELECT	1MF	20%	50V	
C362	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C363	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C364	1-126-301-11	ELECT	1MF	20%	50V	
C365	1-164-343-11	CERAMIC CHIP	0.056MF	10%	25V	
C366	1-124-257-00	ELECT	2.2MF	20%	50V	
C367	1-126-157-11	ELECT	10MF	20%	16V	
C368	1-124-234-00	ELECT	22MF	20%	16V	
C369	1-163-001-11	CERAMIC CHIP	220PF	10%	50V	
C370	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C371	1-124-126-00	ELECT	47MF	20%	16V	
C372	1-124-589-11	ELECT	47MF	20%	16V	
C373	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C378	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C379	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C380	1-163-137-00	CERAMIC CHIP	680PF	5%	50V	
C381	1-163-101-00	CERAMIC CHIP	22PF	5%	50V	
C382	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C383	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C384	1-163-095-00	CERAMIC CHIP	12PF	5%	50V	
		<DIODE>				
D301	8-719-404-46	DIODE MA110				
D302	8-719-404-46	DIODE MA110				
D303	8-719-404-46	DIODE MA110				
D304	8-719-404-46	DIODE MA110				
D305	8-719-404-46	DIODE MA110				
D306	8-719-158-15	DIODE RD5.6S-B				
D307	8-719-404-46	DIODE MA110				
D310	8-719-158-15	DIODE RD5.6S-B				
D312	8-719-404-46	DIODE MA110				
D313	8-719-404-46	DIODE MA110				
D314	8-719-404-46	DIODE MA110				
D315	8-719-404-46	DIODE MA110				
D316	8-719-404-46	DIODE MA110				
D317	8-719-404-46	DIODE MA110				
D318	8-719-404-46	DIODE MA110				
D319	8-719-404-46	DIODE MA110				
D320	8-719-404-46	DIODE MA110				
D321	8-719-400-94	DIODE MA3130				
		<DELAY LINE>				
DL302	1-415-817-11	DELAY LINE				
		<CONNECTOR>				
E1-001	*1-573-965-11	PIN, CONNECTOR (PC BOARD) 50P				
E1-24	*1-564-523-11	PLUG, CONNECTOR 8P				
E1-25	*1-564-521-11	PLUG, CONNECTOR 6P				
E1-26	*1-564-522-11	PLUG, CONNECTOR 7P				
		<IC>				
IC301	8-752-058-68	IC CXA1315M				
IC302	8-752-059-67	IC CXA1465AS				
IC303	8-759-106-02	IC UPC4570G2				
		<COIL>				
L301	1-410-064-11	INDUCTOR	2.7MMH			
L307	1-410-944-31	INDUCTOR CHIP	15UH			
L308	1-410-946-31	INDUCTOR CHIP	22UH			
		<TRANSISTOR>				
Q301	8-729-925-79	TRANSISTOR IMX3				
Q302	8-729-925-79	TRANSISTOR IMX3				
Q303	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q304	8-729-907-46	TRANSISTOR IMZ1				
Q305	8-729-925-79	TRANSISTOR IMX3				
Q306	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q307	8-729-903-10	TRANSISTOR FMW1				
Q309	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q310	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q311	8-729-403-27	TRANSISTOR XN4401				
Q312	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q314	8-729-403-27	TRANSISTOR XN4401				
Q315	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q316	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q317	8-729-216-22	TRANSISTOR 2SA1162-G				
Q321	8-729-925-79	TRANSISTOR IMX3				
Q322	8-729-216-22	TRANSISTOR 2SA1162-G				
Q323	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q324	8-729-216-22	TRANSISTOR 2SA1162-G				
Q325	8-729-216-22	TRANSISTOR 2SA1162-G				
Q326	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q327	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q328	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q329	8-729-925-79	TRANSISTOR IMX3				

REF.NO.	PART NO.	DESCRIPTION				REMARK
Q330	8-729-925-79	TRANSISTOR IMX3				
Q333	8-729-925-79	TRANSISTOR IMX3				
Q334	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q335	8-729-907-46	TRANSISTOR IMZ1				
Q340	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q342	8-729-925-79	TRANSISTOR IMX3				
Q344	8-729-216-22	TRANSISTOR 2SA1162-G				
		<RESISTOR>				
R301	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R302	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R303	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R304	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R305	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R306	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R307	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R308	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R309	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R310	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R312	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R313	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R314	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R316	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R317	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R320	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R325	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R326	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R331	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R332	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W	
R333	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R336	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R338	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R339	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R340	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R341	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R343	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R344	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R345	1-216-292-11	METAL GLAZE	8.2M	5%	1/8W	
R346	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R347	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R348	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R349	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R350	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R351	1-216-674-11	METAL CHIP	9.1K	0.50%	1/10W	
R352	1-216-011-00	METAL GLAZE	27	5%	1/10W	
R353	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R354	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R355	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R356	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R357	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R358	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R359	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R360	1-216-119-00	METAL GLAZE	820K	5%	1/10W	
R361	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R362	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R363	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R364	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R365	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R366	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R367	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R368	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R369	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R370	1-216-033-00	METAL GLAZE	220	5%	1/10W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R371	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R372	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R373	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W	
R374	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R375	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R376	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R377	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R378	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R379	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R380	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R381	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R382	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R383	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	
R384	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R385	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R386	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R387	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R388	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R389	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R390	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R391	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R393	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R394	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R395	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R396	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R397	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R398	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R399	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1301	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1302	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R1303	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R1304	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1305	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1306	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1307	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1308	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1309	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1310	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R1311	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1312	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1313	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1314	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1315	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1316	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1317	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1318	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1319	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1320	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R1321	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1322	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R1323	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1324	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R1325	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1326	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1327	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1328	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1329	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1330	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1331	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1332	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R1333	1-216-129-00	METAL GLAZE	2.2M	5%	1/10W	
R1334	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1335	1-216-089-00	METAL GLAZE	47K	5%	1/10W	

E1 E2

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1336	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1337	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1338	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1339	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1340	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1342	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1343	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R1344	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R1345	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R1346	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1347	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1348	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1349	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1350	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R1351	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1352	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R1353	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R1354	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1355	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R1356	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1357	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1358	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1362	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R1363	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1364	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R1373	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1374	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1379	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R1380	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R1381	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1382	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R1383	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1384	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1385	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R1386	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R1387	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R1388	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R1389	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1390	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1391	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1392	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1394	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1395	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1396	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R1399	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R5301	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R5302	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R5303	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R5304	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R5305	1-216-085-00	METAL GLAZE	33K	5%	1/10W	

<CRYSTAL>

X301	1-567-505-11	OSCILLATOR, CRYSTAL	

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*A-1346-060-A E2 BOARD, COMPLETE
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<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C2302	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C2303	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2310	1-163-105-00	CERAMIC CHIP	33PF	5%	50V	
C2313	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
C2314	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2318	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2320	1-124-589-11	ELECT	47MF	20%	16V	
C2321	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
C2322	1-124-234-00	ELECT	22MF	20%	16V	
C2323	1-124-234-00	ELECT	22MF	20%	16V	
C2324	1-124-234-00	ELECT	22MF	20%	16V	
C2325	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2326	1-124-589-11	ELECT	47MF	20%	16V	
C2327	1-164-505-11	CERAMIC CHIP	2.2MF		16V	
C2328	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2329	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2331	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2332	1-124-234-00	ELECT	22MF	20%	16V	
C2333	1-124-234-00	ELECT	22MF	20%	16V	
C2334	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2335	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2336	1-126-163-11	ELECT	4.7MF	20%	16V	
C2337	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2338	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2340	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C2345	1-164-505-11	CERAMIC CHIP	2.2MF		16V	
C2346	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2347	1-163-367-11	CERAMIC CHIP	39PF	5%	50V	
C2349	1-164-505-11	CERAMIC CHIP	2.2MF		16V	
C2350	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2351	1-164-505-11	CERAMIC CHIP	2.2MF		16V	
C2352	1-164-505-11	CERAMIC CHIP	2.2MF		16V	
C2353	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2354	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2357	1-126-301-11	ELECT	1MF	20%	50V	
C2360	1-163-109-00	CERAMIC CHIP	47PF	5%	50V	

<DIODE>

D2301	8-719-018-27	DIODE MA5091
D2302	8-719-018-27	DIODE MA5091
D2303	8-719-018-27	DIODE MA5091
D2304	8-719-018-27	DIODE MA5091
D2305	8-719-018-27	DIODE MA5091
D2306	8-719-404-46	DIODE MA110
D2307	8-719-946-98	DIODE FMN1
D2308	8-719-946-98	DIODE FMN1
D2309	8-719-404-46	DIODE MA110
D2312	8-719-404-46	DIODE MA110
D2313	8-719-404-46	DIODE MA110
D2314	8-713-300-57	DIODE 1T33
D2317	8-719-404-46	DIODE MA110

<CONNECTOR>

E2-002	*1-573-965-11	PIN, CONNECTOR (PC BOARD) 50P
E2-25	*1-564-521-11	PLUG, CONNECTOR 6P
E2-26	*1-564-522-11	PLUG, CONNECTOR 7P
E2-46	*1-564-518-11	PLUG, CONNECTOR 3P

<IC>

IC2301	8-759-066-52	IC PCA8510T/012-T
IC2303	8-759-925-75	IC SN74HC05ANS
IC2304	8-752-037-15	IC CXA1387S
IC2306	8-759-011-65	IC MC74HC4053F
IC2307	8-752-058-68	IC CXA1315M

a. AN ITEM OF ADJUSTMENT

ITEM	REFERENCE DATA	NAME REGISTER	
GAMP	19	VP	GREEN AMP.
BAMP	9	VP	BLUE AMP.
GCUT	8	VP	GREEN CUT OFF.
BCUT	6	VP	BLUE CUT OFF
SBRT	40	VP	BRIGHT

b. METHOD OF CANCELLATION FROM SERVICE MODE

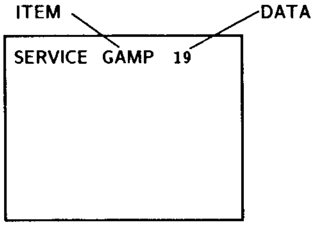
Set the standby condition (Press [POWER] button on the commander) in the next place, press [POWER] button again, hereupon it becomes TV mode.

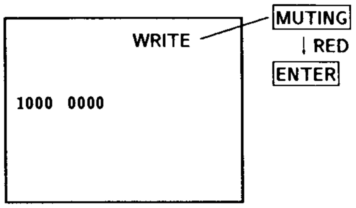
c. METHOD OF WRITE FOR MEMORY

1) Set to Service Mode.
2) Press [1] (UP) and [4] (DOWN), select an item of adjustments.
3) Press [MUTING] button indicate WRITE (RED) on screen.
4) Press [ENTER] button to write for memory.

d. MEMORY WRITE CONFIRMATION METHOD

1) After adjustment, pull out the plug from AC outlet, and next place, plug in AC outlet again.
2) Turn the power switch ON and set to Service Mode.
3) Call the adjusted items again, confirm they were adjusted.





3-4. G2 (SCREEN) AND WHITE BALANCE ADJUSTMENTS

1. G 2 (SCREEN) ADJUSTMENT(RV 701)

1) Set the PICTURE and BRIGHTNESS to normal.
2) Confirm G 1 voltage is within 30.0±5 V.
3) Apply DC voltage of 180 V to the cathodes of R,G and B from DC stabilized power source.
4) While watching the picture, adjust the G2 control (RV 701) to the just the retrace line disappears.

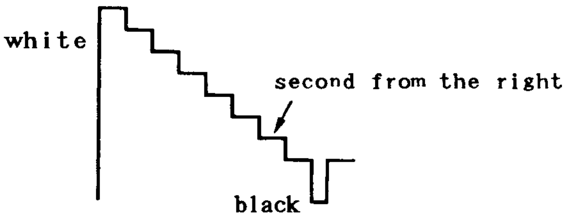
(Using the Remote Commander)

2. WHITE BALANCE ADJUSTMENTS

1) Set to service mode.
2) Press [STANDARD] to normal and if necessaries "TRINITONE" set to "LOW" by [+] or [-].
3) Input an entire white signal.
4) Set the PICTURE to minimum.
5) Select S BRT with [1] and [4], and then set the level to minimum with [3] and [6].
6) Select G CUT and B CUT with [1] and [4]. And adjust the level with [3] and [6] for the best white balance.
7) Set the PICTURE to maximum.
8) Select G AMP and B AMP with [1] and [4], and adjust the level with [3] and [6] for the best white balance.
9) Write into the memory by pressing [MUTING] → then [ENTER].

3. SUB BRIGHT ADJUSTMENT

1) Set to service mode.
2) Input a staircase signal of black and white from the pattern generator.
3) BRIGHTNESS ··· RESET
   PICTURE ········· minimum
4) Select SBRT with [1] and [4], and adjust SUB BRIGHT level with [3] and [6] so that the stripe second from the right is dimly lit.



SECTION 4
SAFETY RELATED ADJUSTMENTS

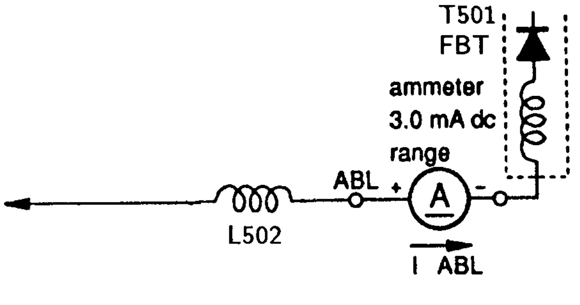
A BOARD

R565 CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components (marked with ◪ on the schematic diagram).
IC502,Q509,Q510,R565,R567,R568,R569

①

1. Preparation before confirmation
   1) Remove R651 on the G board and connect a variable resistor (RV1 : about 10kΩ) between pin ① of IC651 and B+ line.
   2) Supply 120±2.0V AC to with variable auto-transformer.
2. Hold-down operation confirmation
   1) Turn the POWER switch ON, and input an entirely white signals and adjust ABL current to 1910±50μA with PICTURE and BRIGHT etc controls.
   2) Increase B+ line voltage gradually by adjusting the resistor of RV1. Confirm that the minimum voltage is less than 147.0V DC whereby the raster disappears during operation of hold-down circuit.
      NOTE: When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.
   3) Turn the POWER switch ON, and input a dot signals and adjust ABL current to 110±30μA with PICTURE and BRIGHT etc controls.
   4) Increase B+ line voltage gradually by adjusting the resistor of RV1. Confirm that the minimum voltage is lower than 148.5V DC whereby the raster disappears during operation of hold-down circuit.
      NOTE: When the Hold-down circuit starts operating, switch OFF the POWER of the set immediately.
3. Hold-down readjustment
   When step 2 is not satisfied, readjustment should be performed by altering the resistance value of R565 (a component marked with ◪).



A BOARD

R566 CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components (marked with ◪ on the schematic diagram).
IC502,IC651,Q509,Q510,D502,C531,R554,R566,R567, R568,R569,R651,R1506,T501

②

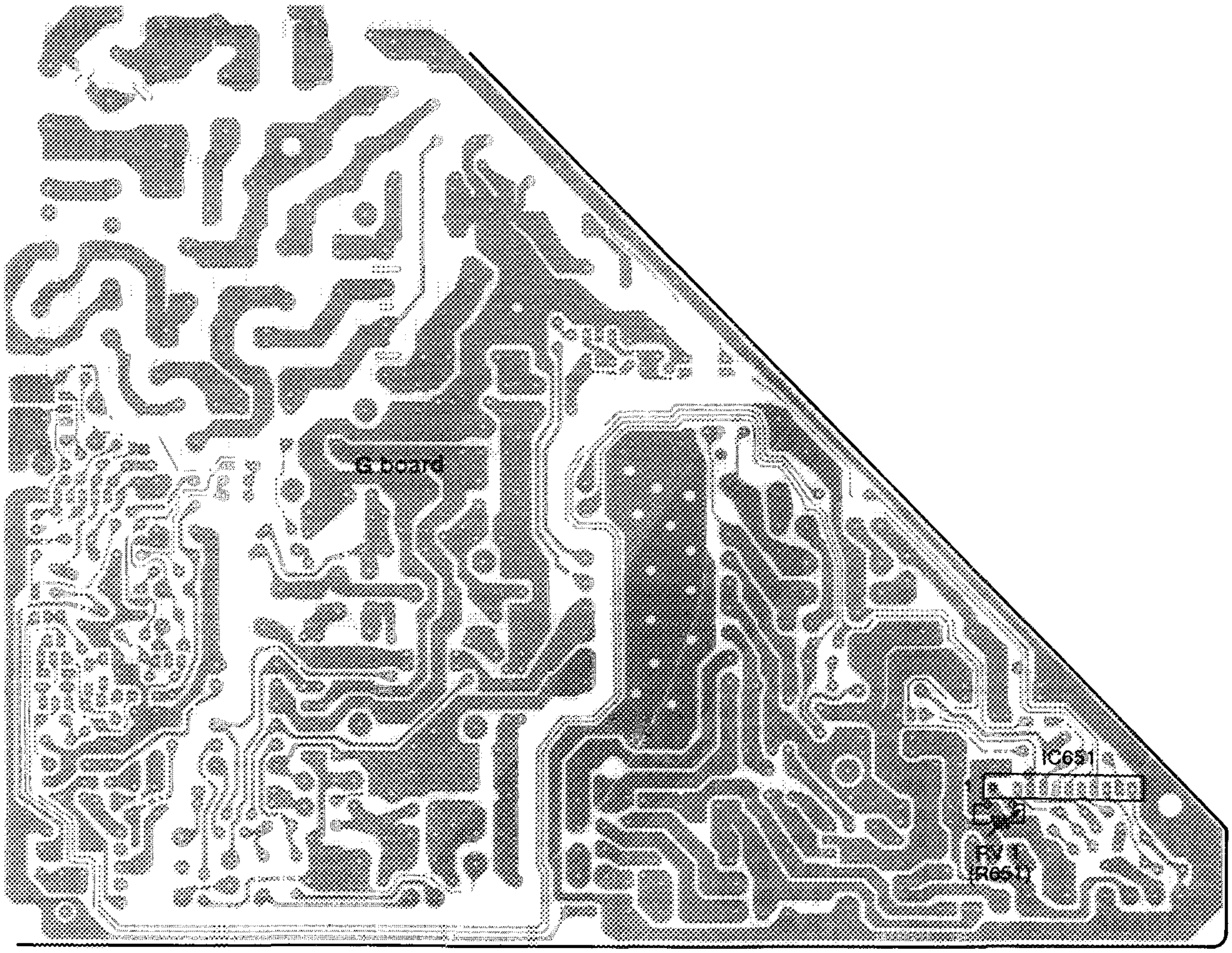
1. Preparation before confirmation
   1) Turn the POWER switch ON, and input an entirely white signals and set the PICTURE and BRIGHT controls to maximum.
   2) Confirm that voltage of the check terminal of pin② of A-100 connector is more than 127.0 V DC when the set is operating normally with 120.0± 2.0V AC supply.
2. Hold-down operation confirmation
   1) Turn the POWER switch ON, and input an entirely white signals and set the PICTURE and BRIGHT controls to maximum.
   2) Apply DC voltage of over 130±2.0V DC gradually to the check terminal of pin ② of A-100 connector via 1SS119 from the DC stabilized power source.
      Confirm that the minimum voltage is lower than 149.0V DC whereby the raster disappears during operation of hold-down circuit.
      NOTE: When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.
3. Hold-down readjustment
   When step 2 is not satisfied, readjustment should be performed by altering the resistance value of R566 CARBON 1/4W (a component marked with ◪).

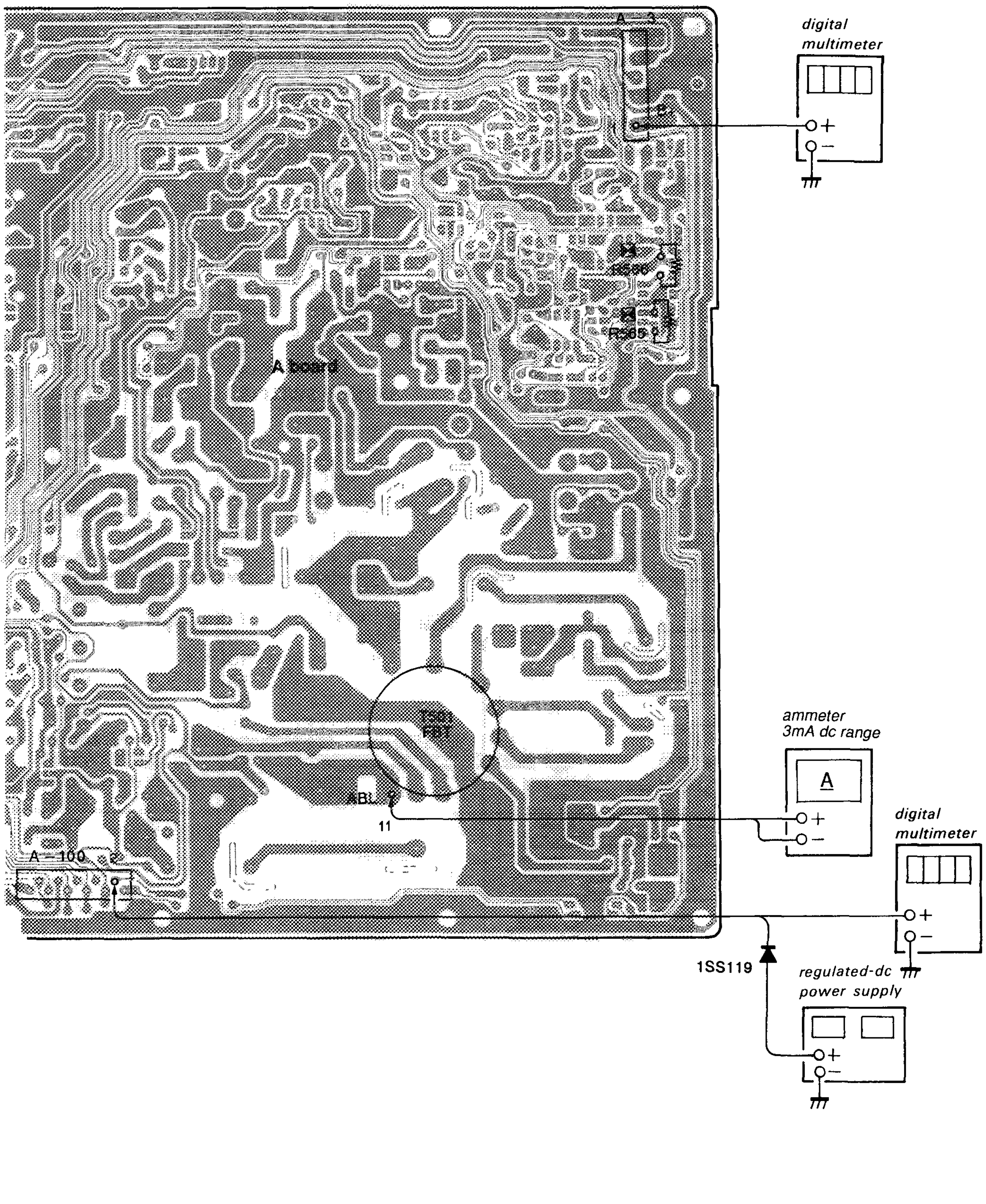
G BOARD

B+ VOLTAGE CONFIRMATION

The following adjustments should always be performed when replacing IC651 and R651.

1) Supply $130 \pm ^{2}_{0}$V AC to with variable autotransformer.
2) Input an entirely monoscope signal.
3) Set the PICTURE control and the BRIGHT controls in to initial reset.
4) Confirm the voltage of A BOARD ① pin A-3 connecter is less than 136.5V DC.
5) If step 4) is not satisfied, replace IC651 and R651 repeat above steps.




A board
T501
FBT
ABL
11
A-100
A-3
R586
R565
digital
multimeter
ammeter
3mA dc range
A
digital
multimeter
1SS119
regulated-dc
power supply

SECTION 5
CIRCUIT ADJUSTMENTS

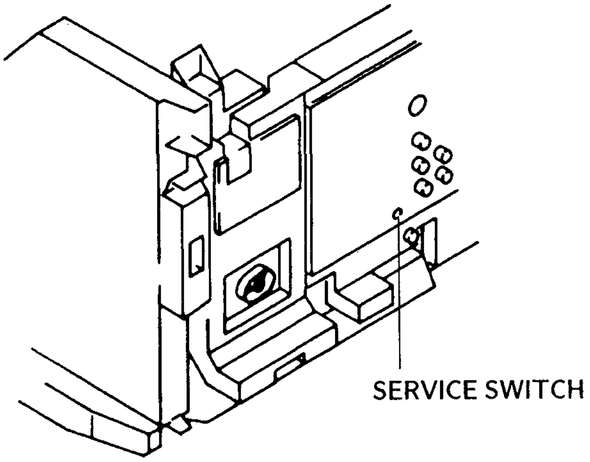
5-1. ELECTRICAL ADJUSTMENT BY REMOTE COMMANDER

Use of Remote Commander (RM-AV1100) can be performed circuit adjustments about this model.

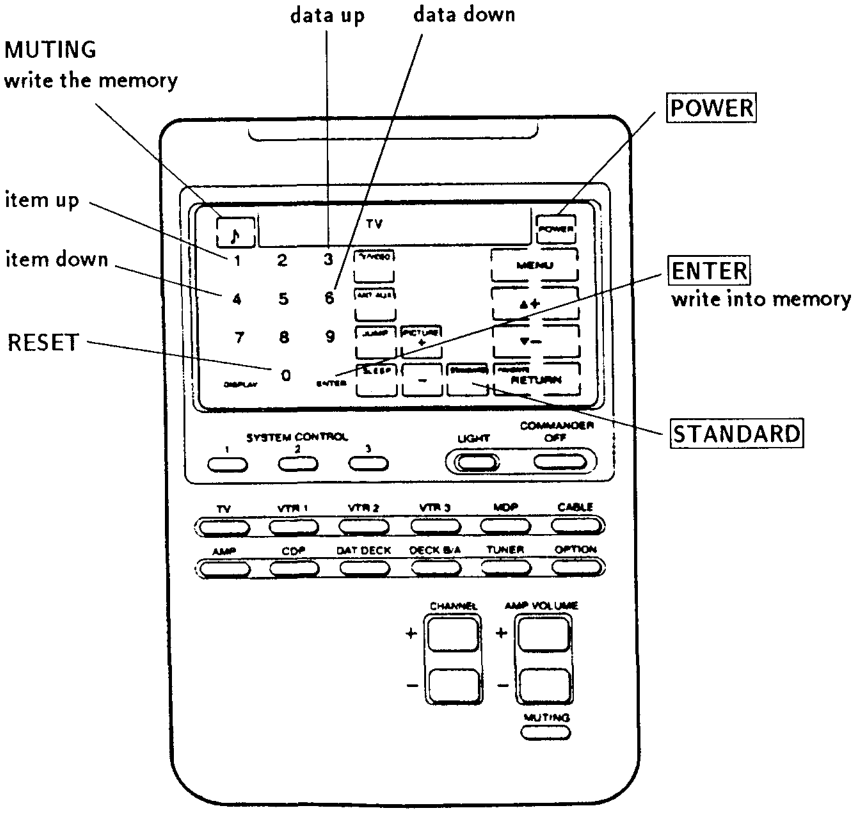
NOTE : Test Equipment Required.
1. Pattern Generator
2. Frequency counter
3. Digital multimeter
4. Audio OSC

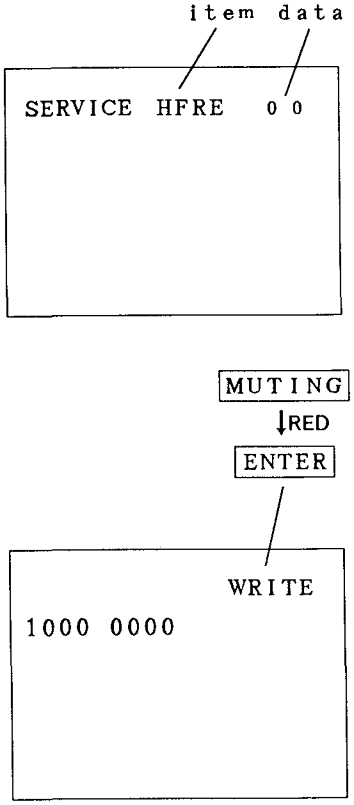
1. METHOD OF SETTING THE SERVICE MODE

1) Press [POWER] button on the Remote Commander while pressing switch on the rear of the set.



2. ADJUST BUTTONS AND INDICATOR





3. AN ITEM OF ADJUSTMENT

ITEM	REFERENCE DATA	NAME REGIST	
AFC	1	VP	AFC 1.0
HFRE	93	VP	H. FREQUENCE
VFRE	15	VP	V. FREQUENCE
VPOS	19	VP	V. SHIFT
VSIZ	32	VP	V. SIZE
VLIN	2	VP	V. LINEARITY
VSCO	3	VP	VS. CORRECTION
HPOS	9	VP	H. PHASE
HSIZ	25	VP	H. SIZE
PAMP	17	VP	PIN. AMP.
CPIN	4	VP	CORNER PIN
PPHA	8	VP	PIN. PHASE
VCOM	2	VP	V. COMP
GAMP	19	VP	GREEN AMP.
BAMP	9	VP	BLUE AMP.
GCUT	8	VP	GREEN CUT OFF.
BCUT	6	VP	BLUE CUT OFF
SPIX	40	VP	PICTURE
SHUE	29	VP	HUE
SCOL	30	VP	COLOR
SBRT	40	VP	BRIGHT
RGBP	28	VP	RGB PICTURE
SHAP	7		SHARPNESS
DISP	35		OUTPUT
VSMO	0	VP	VSMO
REF	2	VP	REF 1.0
ROFF	1	VP	OFF NR
GOFF	1	VP	OFF NG
BOFF	1	VP	OFF NB
ABLM	0	VP	ABLM
DRGB	1	VP	D RGB
YBOW	31	DE	Y BOW
VANG	35	DE	V. ANGLE
HTAP	31	DE	H. TRAP
TEST	0	AP	T
MPX	7	AP	ATT
FILO	31	AP	I 1
DEEM	7	AP	I 2
STEV	31	AP	OSC 1
SAPV	31	AP	OSC 2
PILO	7	AP	PILOT
SEP	31	AP	WIDE BAND
VD	7	AP	SPECTRAL
LVOL	0	AP	VOLUME-L
RVOL	0	AP	VOLUME-R
BASS	7	AP	BASS
TRE	7	AP	TREBLE
UYBO	39	DC	U.Y. BOW
LYBO	39	DC	L.Y. BOW
HAMP	26	DC	H.AMP
HTIL	36	DC	H TILT
UCBO	20	DC	U.C. BOW
UTIL	44	DC	U.TILT
LCBO	31	DC	L.C. BOW
LTIL	63	DC	L.TILT
DCSH	19	DC	DC. SHIFT
NRLE	30		NR LEVEL
DSPP	31		

PHPO, PVPO, PLEV, PFCO
Nothing change for KV-32XBR90S

4. METHOD OF CANCELLATION FROM SERVICE MODE

Set the standby condition (Press [POWER] button on the commander) in the next place, press [POWER] button again, hereupon it becomes TV mode.

5. METHOD OF WRITE FOR MEMORY

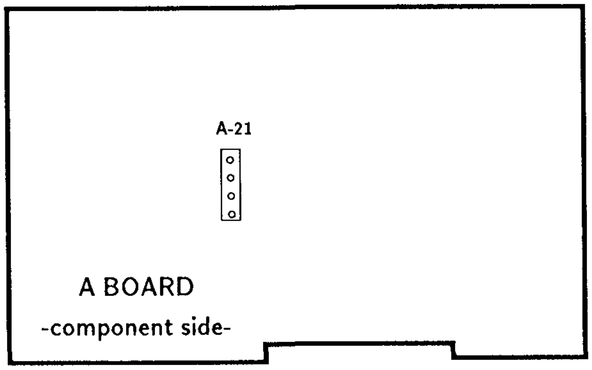
1) Set to Service Mode.
2) Press [1] (UP) and [4] (DOWN), select an item of adjustments.
3) Press [MUTING] button indicate WRITE (RED) on screen.
4) Press [ENTER] button to write for memory.

6. MEMORY WRITE CONFIRMATION METHOD

WRITE
1000 0000

1) After adjustment, pull out the plug from AC outlet, and next place, plug in AC outlet again.
2) Turn the power switch ON and set to Service Mode.
3) Call the adjusted items again, confirm they were adjusted.

5-2. A BOARD ADJUSTMENTS



RF AGC ADJUSTMENT(IF BLOCK VR)

1) Input a color-bar signal.
2) Adjust AGC VR of TU 101 so that snow noise and cross-modulation disappear from the picture.
3) Confirm them at every channel.

H.FREQUENCY ADJUSTMENT (HFRE)

1) Set to Service Mode.
2) Input a color-bar signal.
3) Connect a frequency counter to base of Q 507.
4) Call the item of AFC, set to 3 level (free run).
5) Select HFRE with [1] and [4].
6) Adjust [3] and [6] to the 15735± 60 Hz level.
7) Call the item of AFC again, adjust the level" 01 ".
8) Write into the memory by pressing [MUTING] → then [ENTER].

V.FREQUENCY ADJUSTMENT (VFRE)

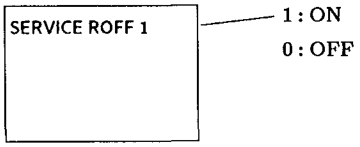
1) Set the Service Mode.
2) Input an off-air signal (VIDEO IN → no signal).
3) Connect the frequency counter across connector VDY−⊕ of DY-1 connector and ground.
4) Select VFRE with [1] and [4].
5) Adjust [3] and [6] to the 55 ±0.5 Hz.
6) Write the memory by pressing [MUTING] → then [ENTER].

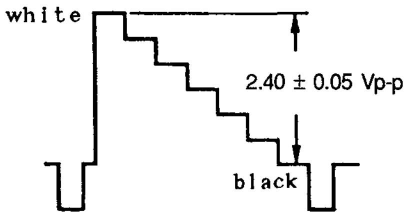
SUB CONTRAST ADJUSTMENT (SPIX)

1) Set to Service Mode.
2) Input a color-bar signal. (75 IRE)
3) Set the conditions as follows.

PICTURE	.... MAX
COLOR	.... MIN
BRIGHT	.... MIN
R OFF	.... ON
G OFF	.... OFF
B OFF	.... OFF

Press [MENU] and select VIDEO MENU → [-] (L)
(It becomes minimum).
Select [3] (ON) and [6] (OFF) with [1] and [4].



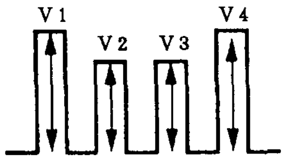


4) Connect an oscilloscope to TP 49 B of C board and ground.
5) Adjust [3] and [6] to the 2.40 ± 0.05Vp-p level by select-ing SPIX with [1] and [4].
6) Write the memory by pressing [MUTING] → then [ENTER].
7) Return the following back to normal after adjustment.

G OFF	.... ON
B OFF	.... ON
COLOR	.... CENTER
BRIGHT	.... CENTER
PICTURE	.... 80%

SUB HUE, SUB COLOR ADJUSTMENT (SHUE, SCOL)

1) Input a color-bar signal.
2) Press STANDARD to normal.
3) Set to Service Mode.
4) Connect an oscilloscope to TR 49 R of C board and ground.
5) Adjust 3 and 4 to the V1=V4 and V2=V3 by select to SHUE and SCOL with 1 and 4.

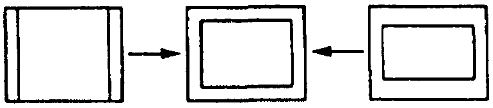


6) Write into the memory by pressing MUTING →then ENTER .

V.SIZE ADJUSTMENT (VSIZ)

1) Set to Service Mode.
2) Press STANDARD to normal.
3) Input a cross-hatch signal.
4) Adjust 3 and 6 to the best vertical size by selecting VSIZ with 1 and 4 .
5) Write into the memory by pressing MUTING →then ENTER .

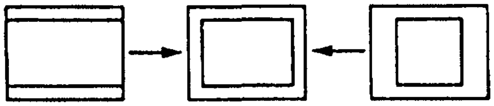
V SIZE (VSIZ)



H.SIZE ADJUSTMENT (HSIZ)

1) Input a cross-hatch signal.
2) Press STANDARD to normal.
3) Set to Service Mode.
4) Adjust 3 and 6 to best horizontal size by selecting HSIZ with 1 and 4.
5) Write into the memory by pressing MUTING →then ENTER .

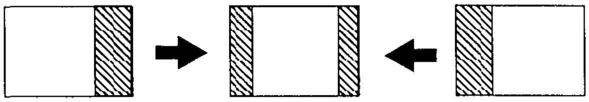
H SIZE (HSIZ)



H.CENTER ADJUSTMENT (H POS)

Note: Perform this adjustment after H.FREQUENCY ADJUSTMENT (HFRE) .

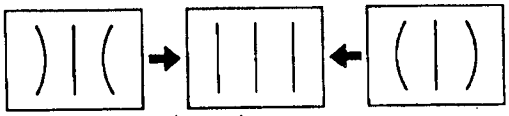
1) Input a color bar signal.
2) Set the Service mode.
3) Select HSIZ with 1 and 4 .
4) Press 6 so that the Horizontal size set to min.
5) Adjust A-21 conector position so that both-size branking width of the Raster should be same on the Scrnne.
6) Unplug Set then plug in Set.
7) Set to Service mode.
8) Select HPOS with 1 and 4 .
9) Adjust 3 and 6 so that the color bars center should be set to the CRT Screen center position.
10) White into the memory by the pressing MUTING → then ENTER .



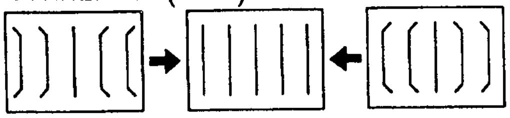
PIN AMP (PAMP) , CORNER PIN (CPIN) PIN PHASE (PPHA), H TRAPIZOID (HTRA) V LINEARITY (VLIN), V ANGLE (VANG), VS CORRECTION (VSCO), Y BOW (YBOW), V SHIFT (VPOS), AND V COMP (VCOM) ADJUSTMENTS

1) Input a cross-hatch signal.
2) Press STANDARD to normal.
3) Set to Service Mode.
4) Select PAMP, CPIN, PPHA, H TRA, VPOS, VCOM, LVIN, VANG, VSCO and YBOW with 1 and 4.
5) Adjust 3 and 6 to the best picture.
6) Write the memory by MUTING → ENTER.

PIN AMP (PAMP)

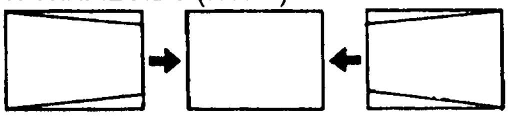


CORNER PIN (CPIN)

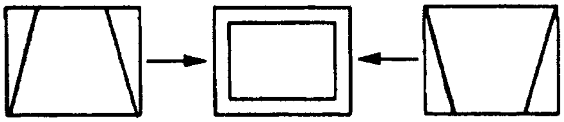


PIN PHASE (PPHA)

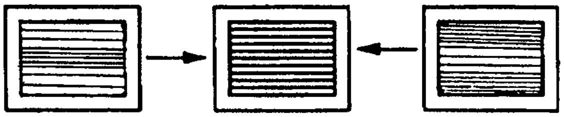
H TRAPIZOIDO (HTRA)



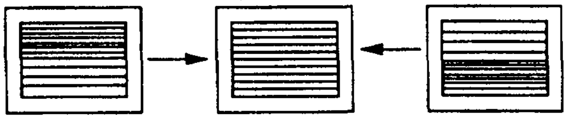
V-SHIFT (VPOS)



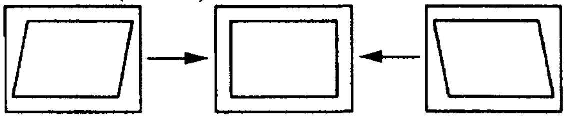
V COMP (VCOM)



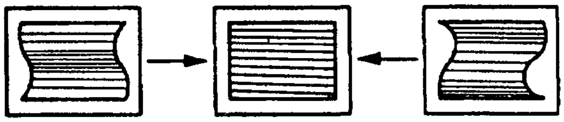
V LINEARITY (VLIN)



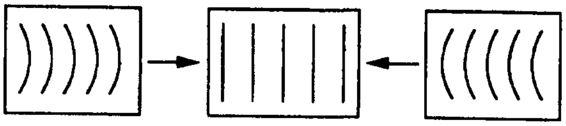
V ANGLE (VANG)



VS CORRECTION (VSCO)

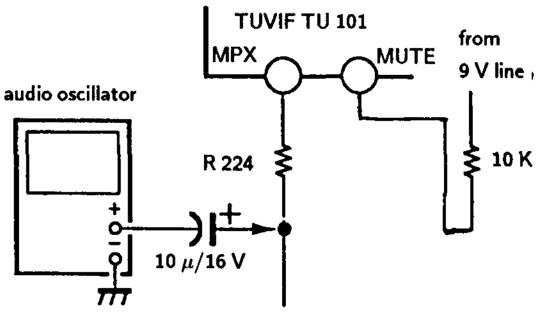


Y BOW (Y BOW)



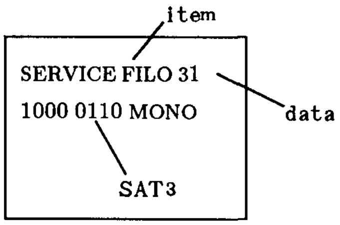
FILTER ADJUSTMENT (MPX, FILO)

1) Set to Service Mode.
2) Select to [TEST] with [1] and [4], set the data to "1". Then select MPX and change data to "08".
3) Connect an audio oscillator to R224 using a capacitor (10μ F/16V), set frequency to 62.936 kHz±0.1 kHz.
   And then, through the 10kΩ resistor, feed 9.0V into the mute of TUVIF TU 101.



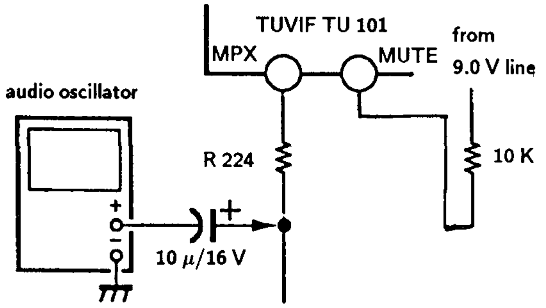
V 4 fh : SINE-WAVE 62.936 KHz±0.1 KHz
LEVEL 3.0 Vp-p

4) Make the data "00" by selecting FILO with [1] and [4] And then, send up the data gradually by pressing [6]. Set the data to D1 before SAT3 changing to 1 from 0.
5) Send up the data gradually. Set data D2 when SAT3 changes 0 from 1.
6) Adjust the data of FILO to $\frac{D1+D2}{2}$.
7) Write into the memory by pressing [MUTING] → then [ENTER].



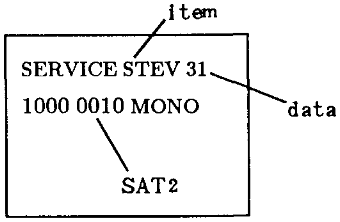
ST VCO ADJUSTMENT (MPX, STEV)

1) Set to Service Mode.
2) Select TEST with [1] and [4], set the data to "1". And then press [MTS] to MONO.
3) Select MPX, set the data "8".
4) Connect an audio oscillator to R 224 using electrolytic capacitor (10μ F/16V) and appply the frequency V_{ST}. Then, apply DC voltage to mute of TUVIF TU 101 using 10kΩ connect to 9.0 V line.



Vfh : SINE-WAVE 15.734 KHz±0.1 KHz
LEVEL 0.28 Vp-p

5) Select STEV with [1] and [4], set the data to "00" with [6]. And then, send up the data gradually. Set the data to D1 before SAT2 changes from 0 to 1.
6) Send up data gradually, set the data to D2 when SAT2 changes 1 from 0.
7) Adjust the data of STEV to
8) Write into the memory by pressing [MUTING] → then [ENTER].



MPX IN LEVEL ADJUSTMENT (MPX)

1) Set to Service Mode.
2) Select TEST with [1] and [4], set the data to "0" with [6]. And then press [MTS] to MONO.
3) Select MPX with [1] and [4], set the data to "08" with [3] and [6].
4) Write into the memory by pressing [MUTING] → then [ENTER].

PILOT CANCEL ADJUSTMENT (PILO)

1) Set to the Service Mode.
2) Select PILO with [1] and [4], set the data to "08" with [3] and [6].
3) Write into the memory by pressing [MUTING] → then [ENTER].

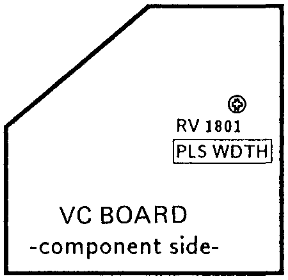
SAP VCO f₀ ADJUSTMENT (SAPV)

1) Set to Service Mode.
2) Input a stereo broadcast signal with SAP.
3) Select TEST with [1] and [4], set the data to "0". And then, press [MTS] to MAIN.
4) Connect a digital multimeter to TP-1(DBX). This voltage reading will equal V 1.
5) Press MTS to SAP and this voltage will equal V 2.
6) Select SAPV with [1] and [4], adjust [3] and [6] so that V 2=V 1±0.03 VDC.
7) Write the memory by [MUTING] → [ENTER].

SEPARATION ADJUSTMENT (SEP)

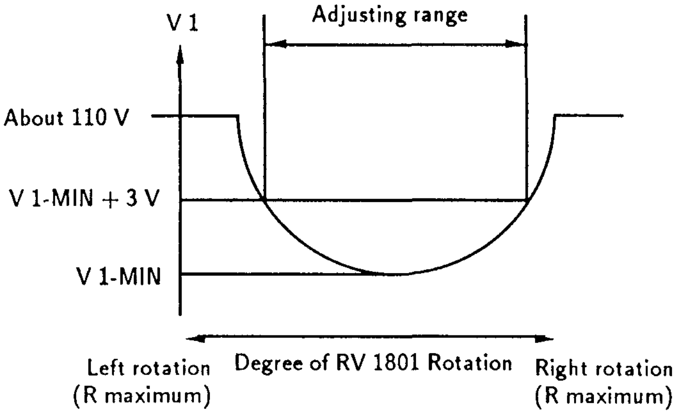
1) Set to Service Mode.
2) Press [MTS] to MAIN and receive a monoral broad-cast signal.
   In the next step, receive a stereo broadcast signal.
3) Select SEP and VD with [1] and [4], adjust [3] and [6] so that a clear stereo sound is effected.

5-3. VC BOARD ADJUSTMENT



DRIVE PULSE PHASE ADJUSTMENT (RV 1801)

1) While measuring the voltage V 1 at both edges of C 1809, rotate RV 1801 so that it becomes minimum. The adjusting range is from (the voltage at which V 1 becomes minimum) V 1 MIN to 3 V, which means, adjust to between V 1 MIN to V 1 MIN + 3 V.

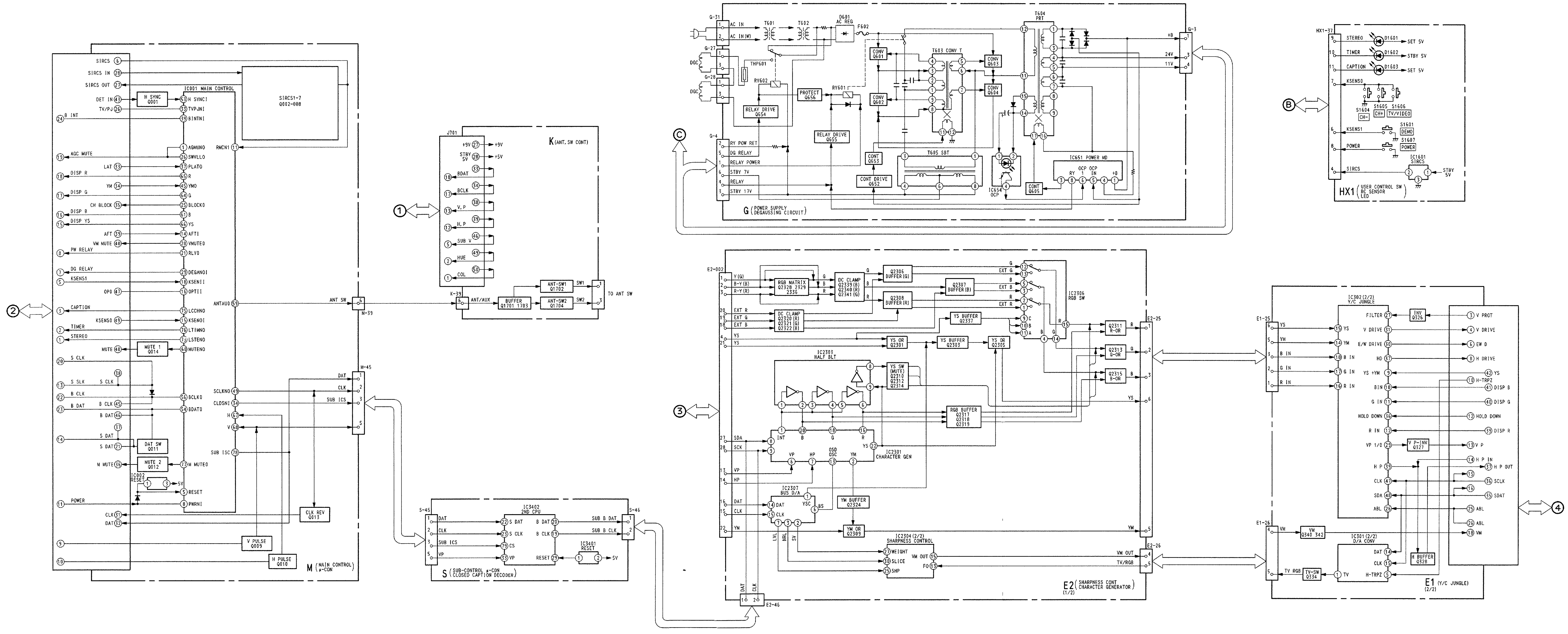


MEMO

SECTION 6
DIAGRAMS

6-1. BLOCK DIAGRAMS (1)

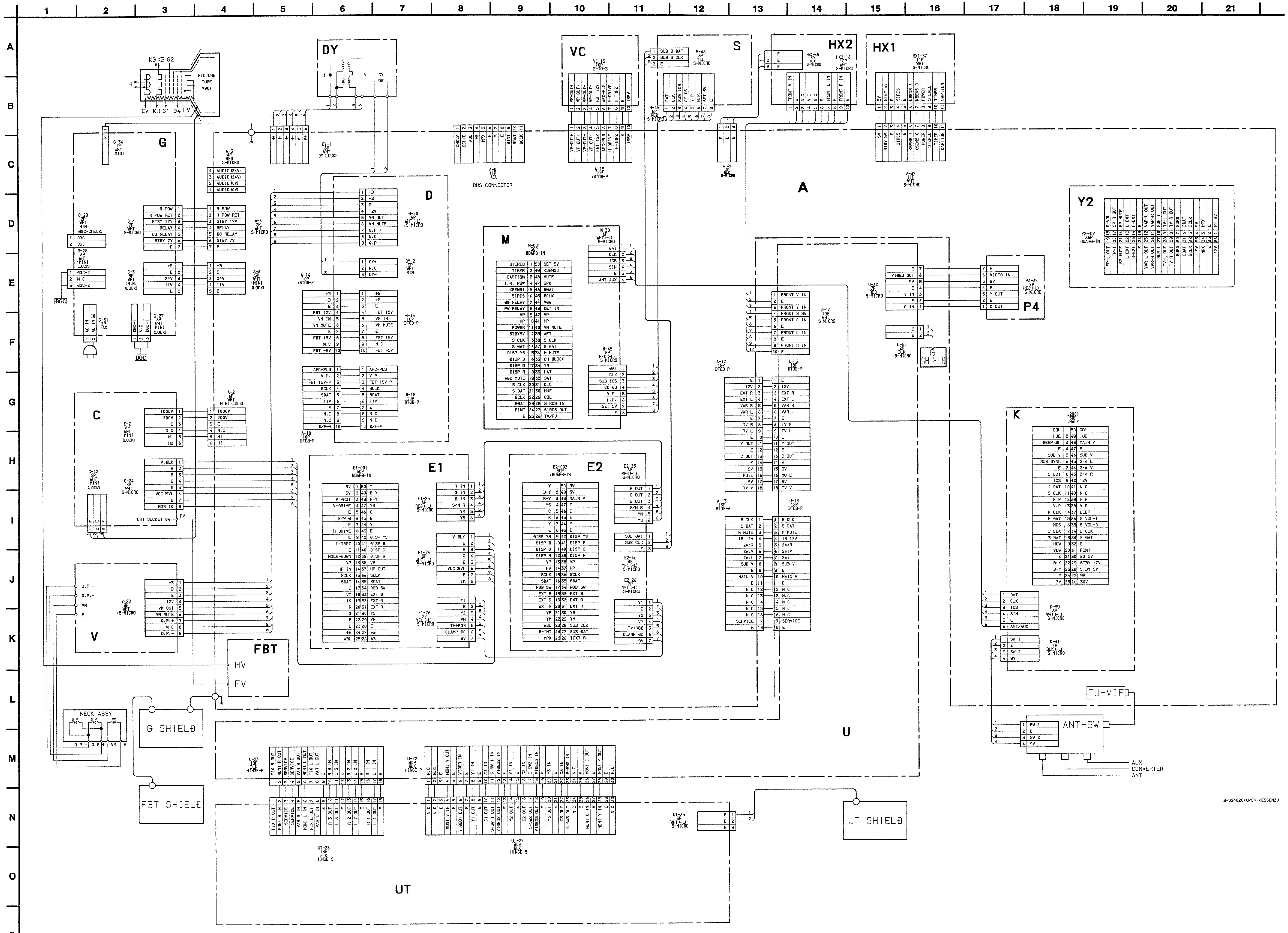
6-2. BLOCK DIAGRAMS (2)



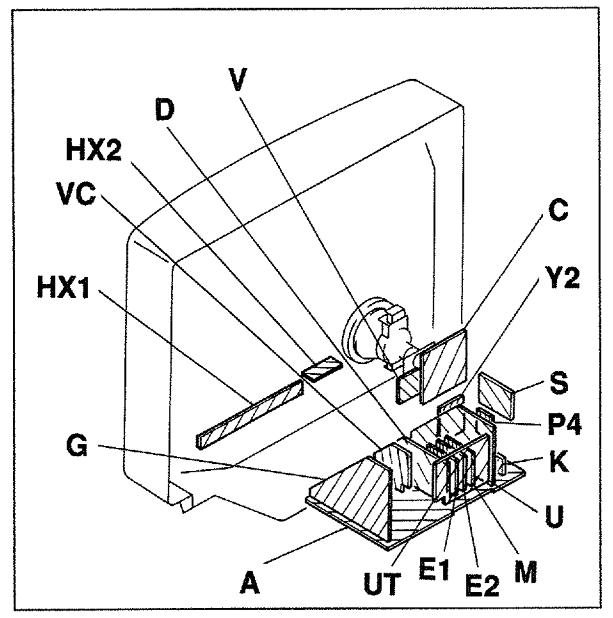
6-3. BLOCK DIAGRAMS (3)

KV-32XBR90S RM-AV1100 KV-32XBR90S RM-AV1100

6-4. FRAME SCHEMATIC DIAGRAM



6-5. CIRCUIT BOARDS LOCATION



6-6. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

- Conductor Side -

Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50WV or less are not indicated except for electrolytic and tantalums.
- All electrolytics are in 50V unless otherwise specified.
- All resistors are in ohms. KΩ = 1000Ω, MΩ = 1000KΩ
- Indication of resistance, which does not have one for rating electrical power, is as follows.

  Pitch: 5 mm
  Rating electrical power 1/4W
- Chips resistors are 1/10W.
- [-W-]: nonflammable resistor.
- △: internal component.
- ▭. panel designation, and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ⊥: earth-ground.
- ⏚: earth-chassis.
- The components identified by ⧓ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- When replacing components identified by ◪ mark the necessary adjustments indicated. If results do not meet the specified value, change the component identified by ⧓ and repeat the adjustment until the specified value is achieved. (Refer to R565 and R566 on page 51-53 in the Service Manual.)
- When replacing the part in below table be sure to parform the related adjustment.

Part replaced (◪)	Adjustment (⧓)
IC502, Q509, Q510, R565, R567, R568, R569	R565 (HOLD-DOWN)
IC502, IC651, Q509, Q510, D502, C531, R554, R566, R567, R568, R569, R651, R1506, T501	R566 (HOLD-DOWN)

- Readings are taken with a color-bar signal input
- Readings are taken with a 10 MΩ digital multimeter.
- Voltage are dc with respect to ground unless otherwise noted
- Voltage variations may be noted due to normal production tolerance
- All voltages are in V
- ▬▬ B+ bus
- ▪▪▪▪▪ B- bus
- , , signal path

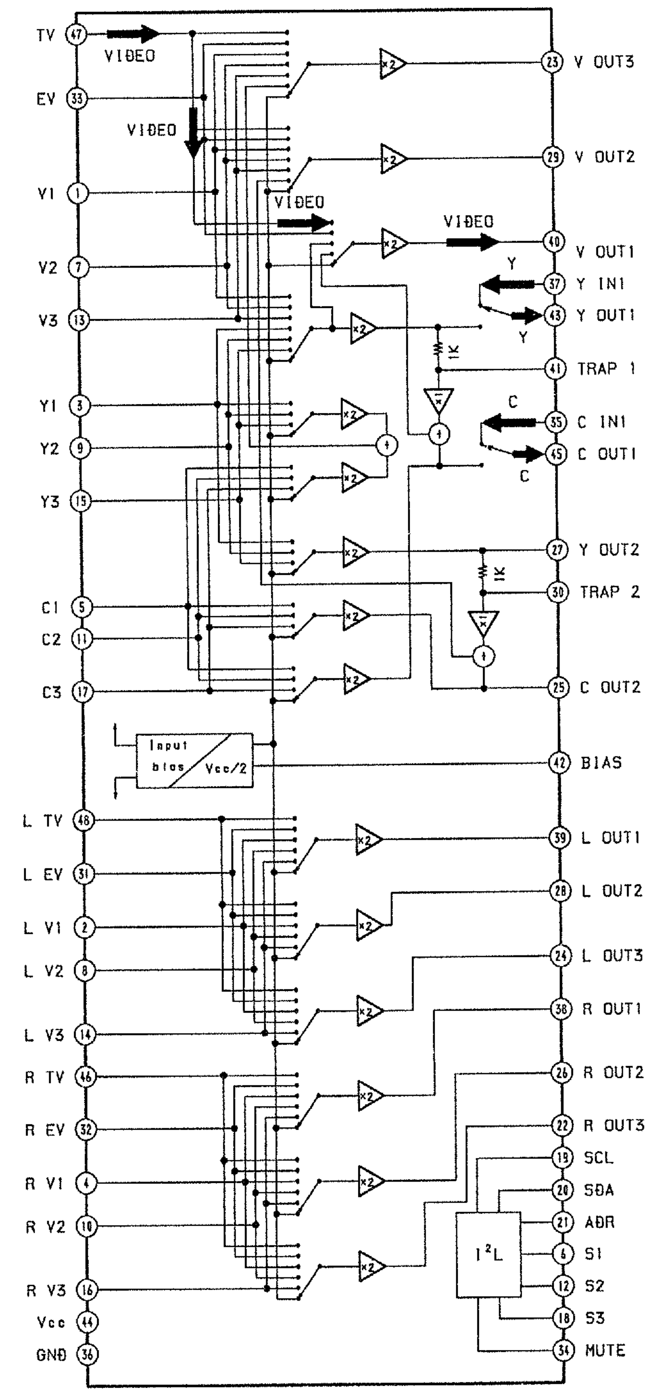
Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: ※	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

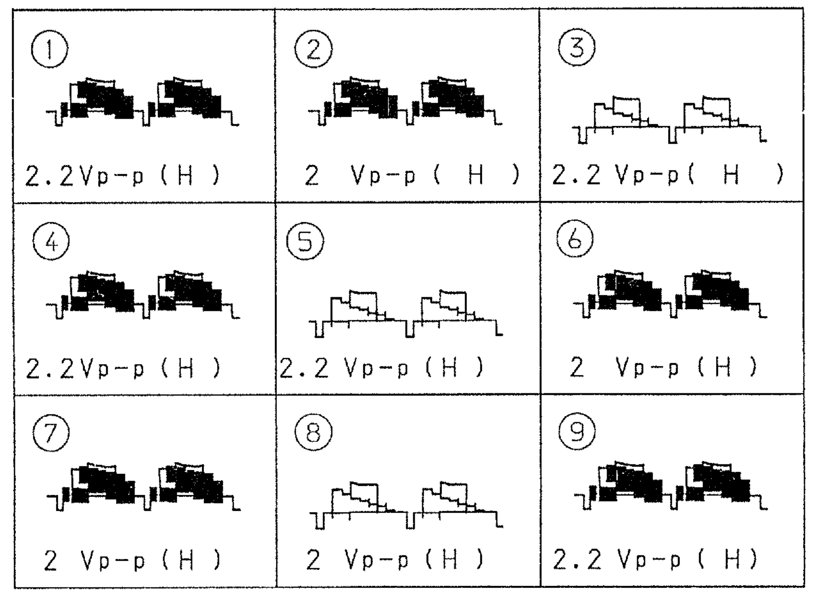
Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

U BOARD IC1002 CXA1545S

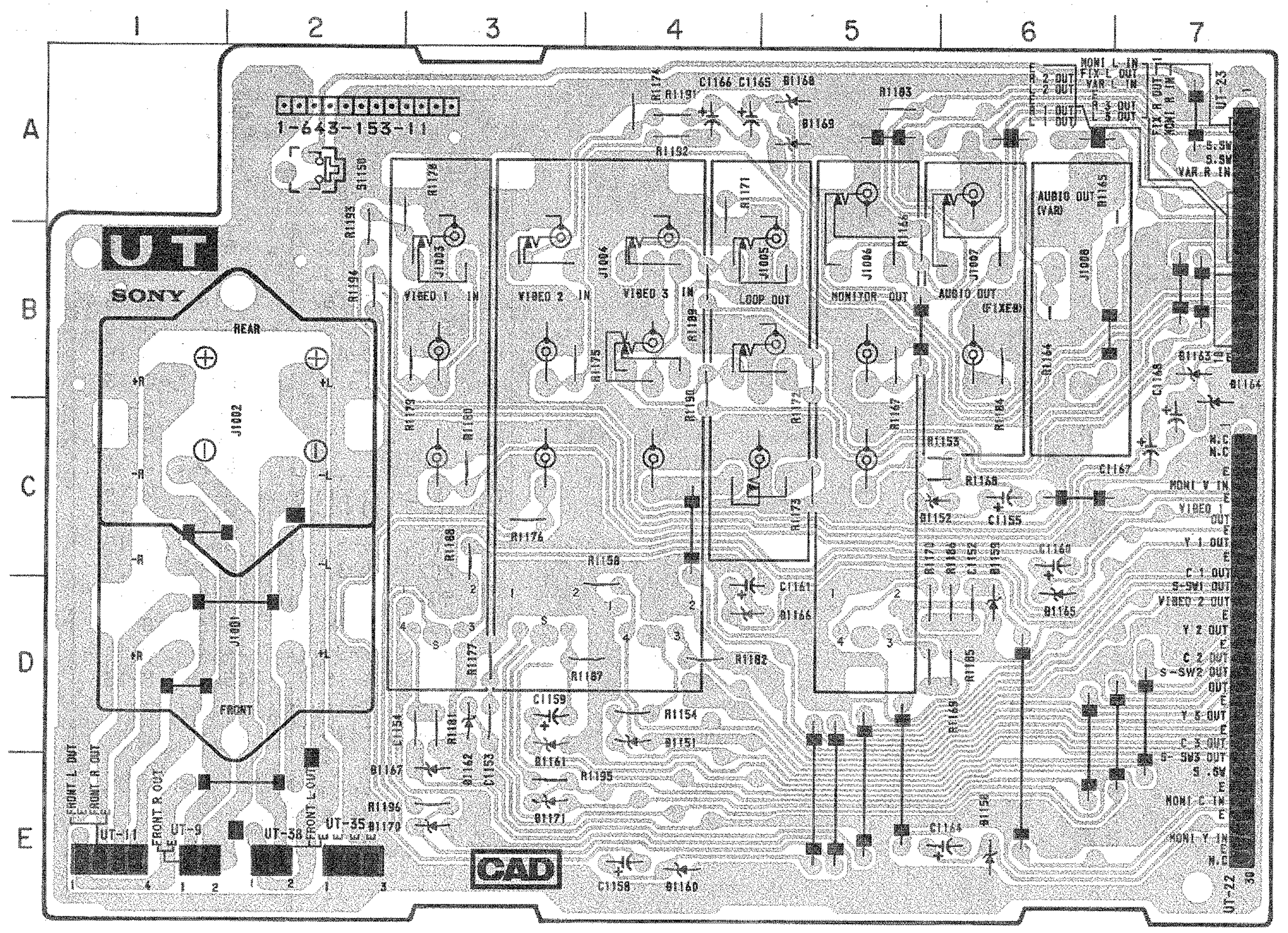


— U Board —



UT [AV I/O TERMINAL]

— UT Board —

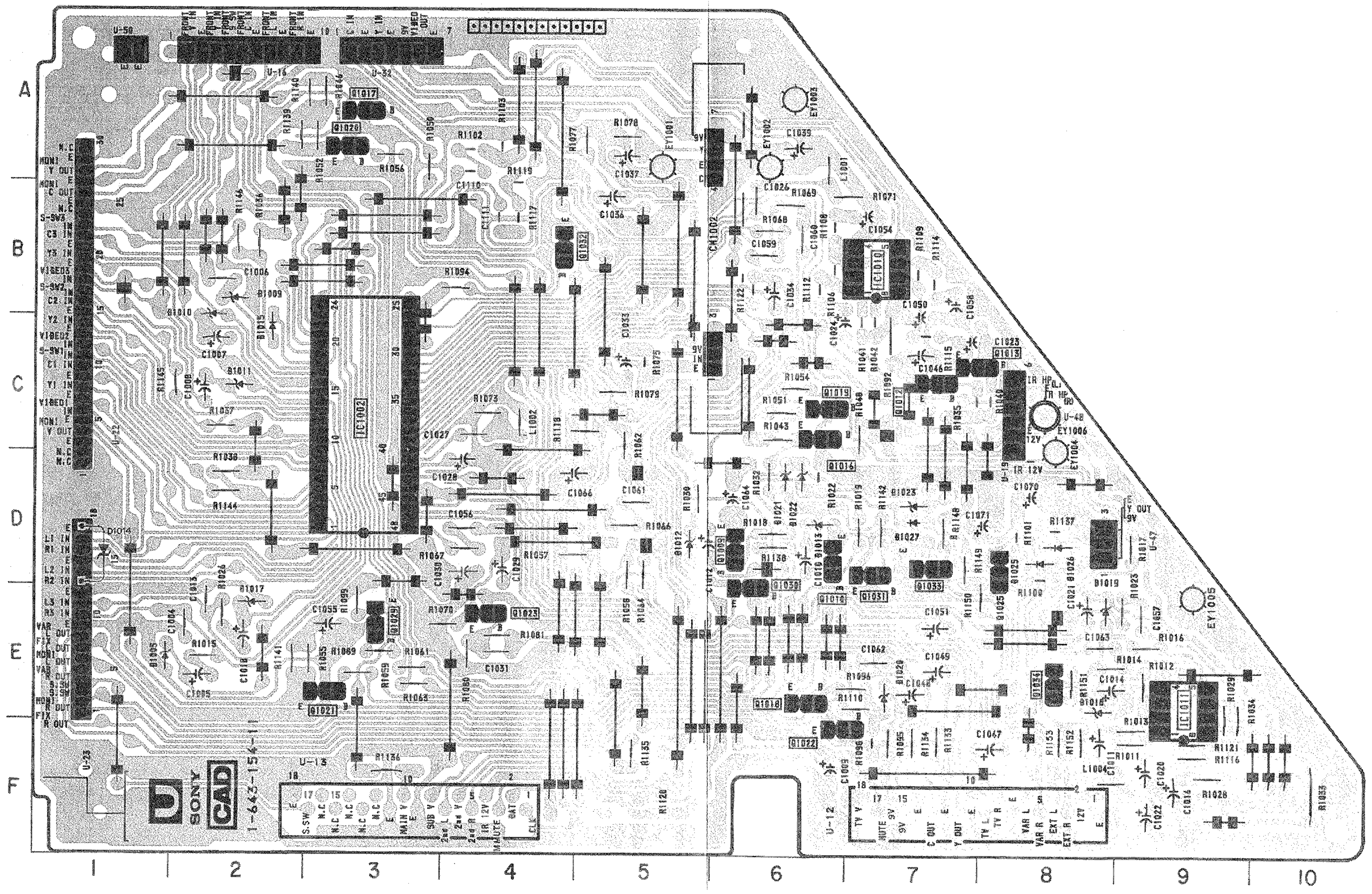


— UT Board —

DIODE	
D1151	D-4
1152	C-5
1158	E-6
1159	D-6
1160	E-4
1161	D-3
1162	D-3
1163	B-7
1164	B-7
1165	D-6
1166	D-4
1167	E-3
1168	A-5
1169	A-5
1170	E-3
1171	E-3

U [AV SW]

— U Board —

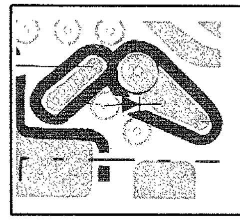


— U Board —

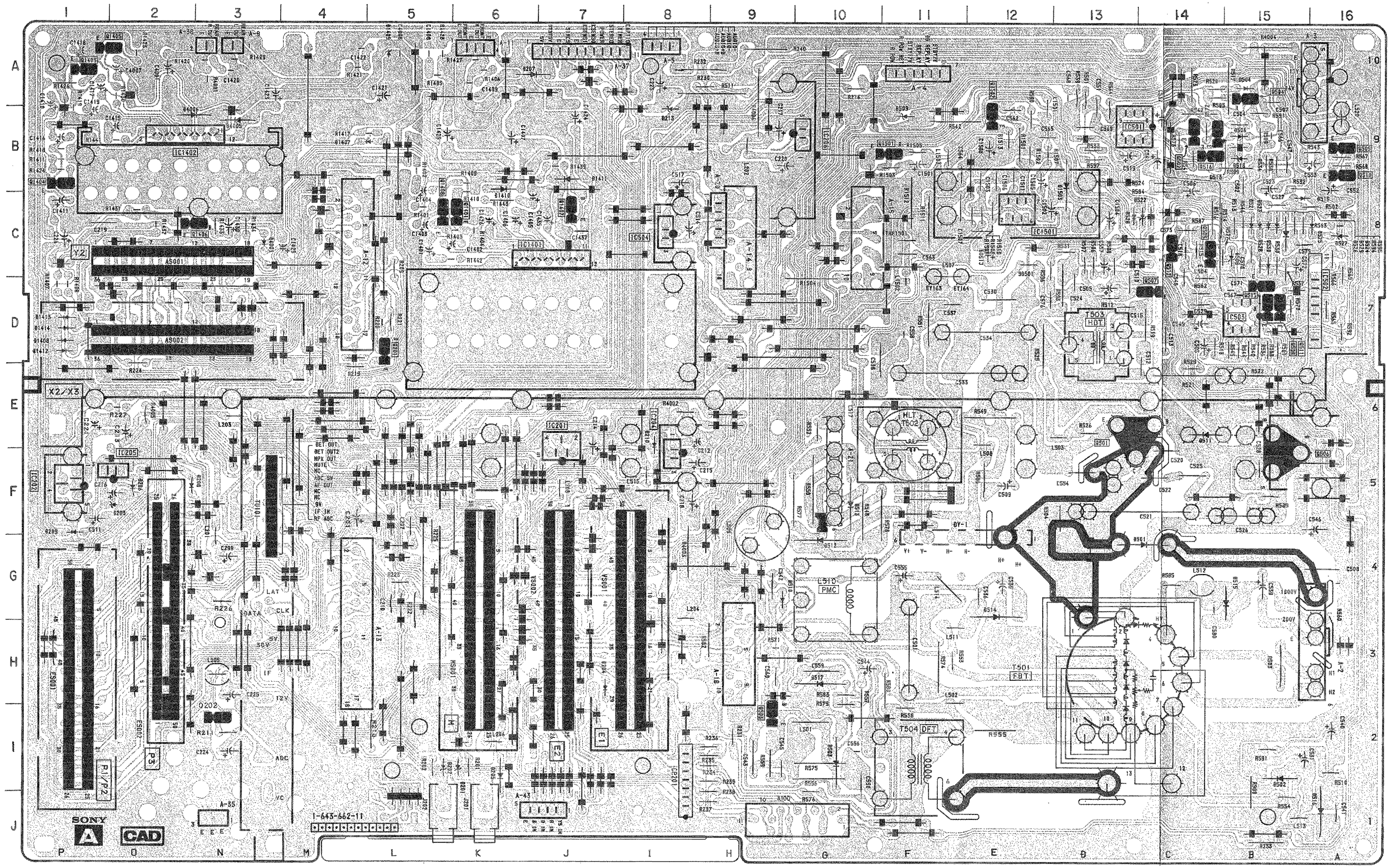
IC	
IC1002	C-3
1011	E-9
TRANSISTOR	
Q1009	D-6
1010	D-6
1016	C-6
1017	A-3
1018	E-6
1019	C-6
1020	A-3
1021	E-3
1022	F-6
1023	E-4
1025	D-8
1029	E-3
1030	D-6
1031	D-7
1032	B-4
1033	D-7
1034	D-7
DIODE	
D1005	E-1
1009	B-2
1010	B-2
1011	C-2
1012	D-5
1013	D-6
1014	D-1
1017	E-2
1018	E-8
1019	E-8
1020	E-7
1021	D-6
1022	D-6
1025	D-8
1026	D-8
1027	D-7

A TUNER-VIF/SIF, HIGH VOLTAGE CIRCUIT
H/V DEFLECTION, X-RAYS.PROT
H.PIN CORR

— A Board —



NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

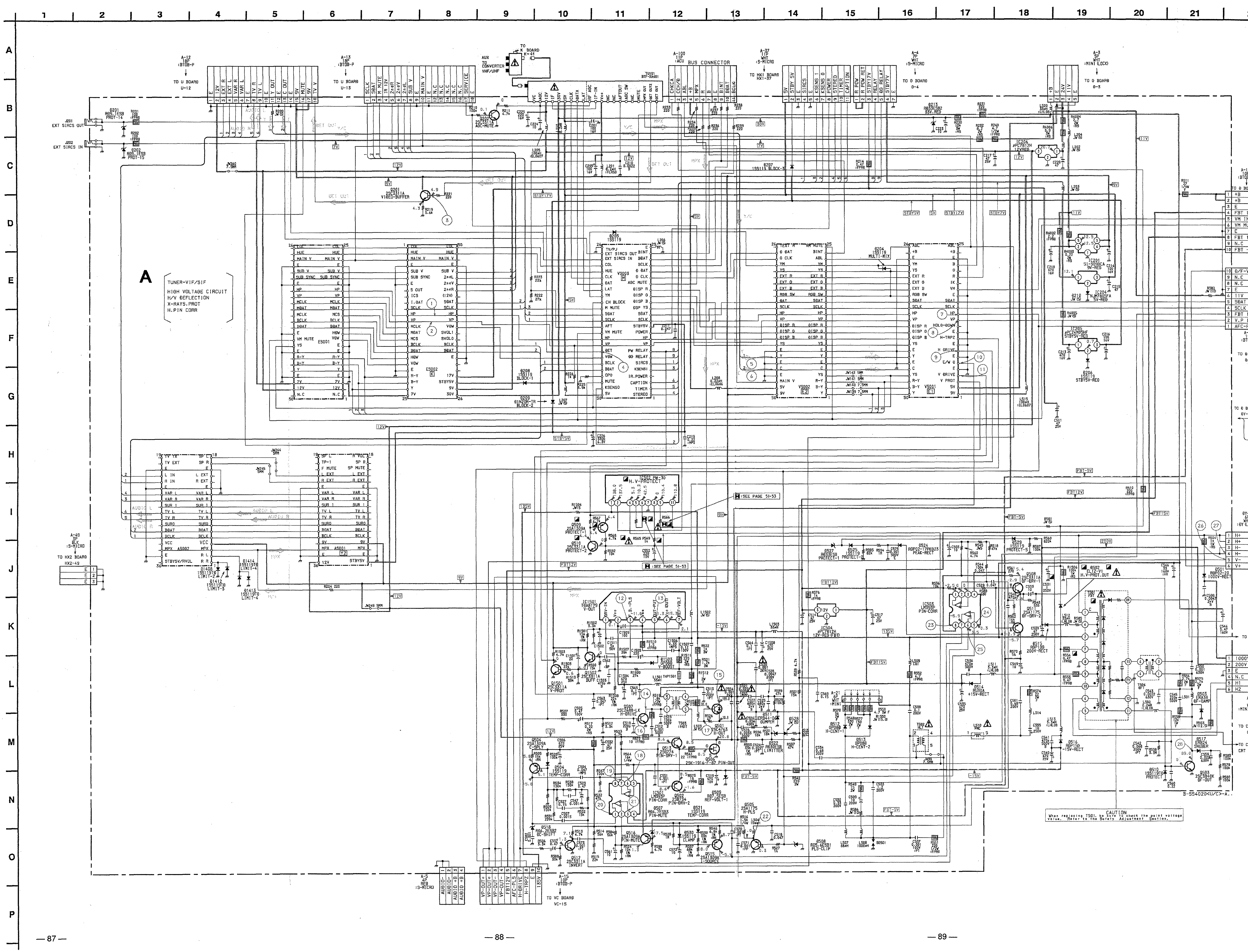


— A Board —

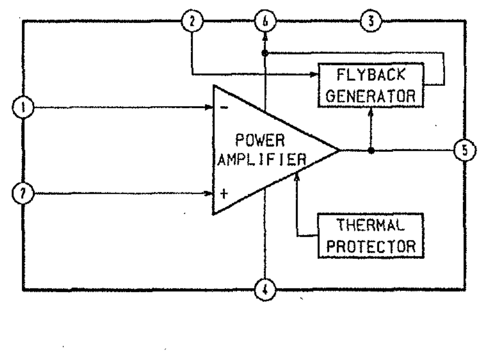
IC	
IC201	E-7
204	F-8
205	F-2
206	B-10
501	B-13
502	D-16
503	D-15
504	C-8
1501	C-12

TRANSISTOR	
Q201	D-5
202	I-3
501	E-13
502	B-14
503	I-9
504	A-15
505	C-14
506	E-15
507	D-14
508	D-15
509	B-16
510	B-16
511	D-15
512	C-14
513	B-14
515	D-15
516	B-14
1501	B-11
1502	B-12

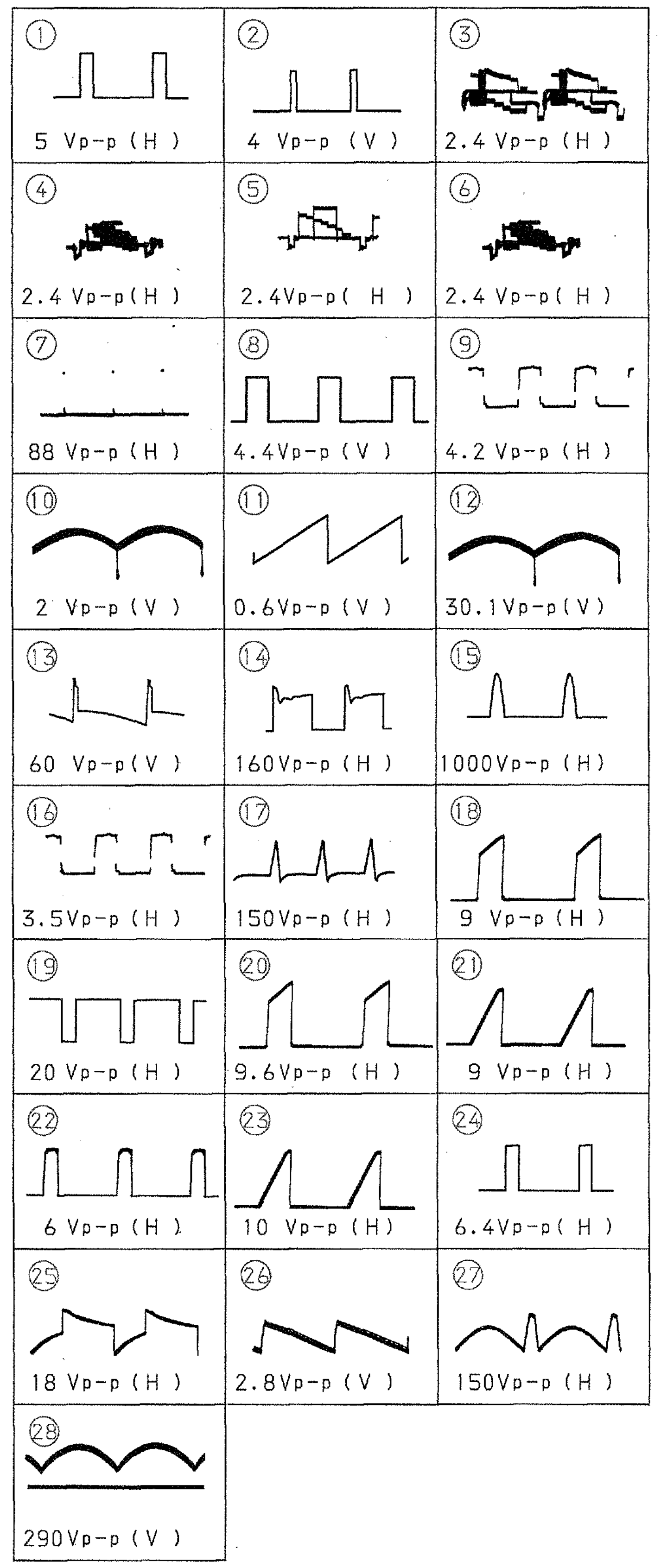
DIODE	
D201	I-6
202	I-5
204	H-7
205	I-6
206	A-2
207	F-6
208	F-2
209	F-1
213	A-8
501	G-14
502	I-5
503	I-10
504	A-15
506	B-15
508	C-15
D509	B-11
510	G-9
511	E-14
512	G-10
513	F-10
514	G-12
515	G-15
516	J-16
517	H-10
518	B-15
521	C-15
522	C-14
524	C-15
525	C-16
527	C-16
529	C-15
530	C-15
1408	D-1
1412	D-1
1413	D-1
1414	D-1
1503	B-13



A BOARD IC1501 TDA8179

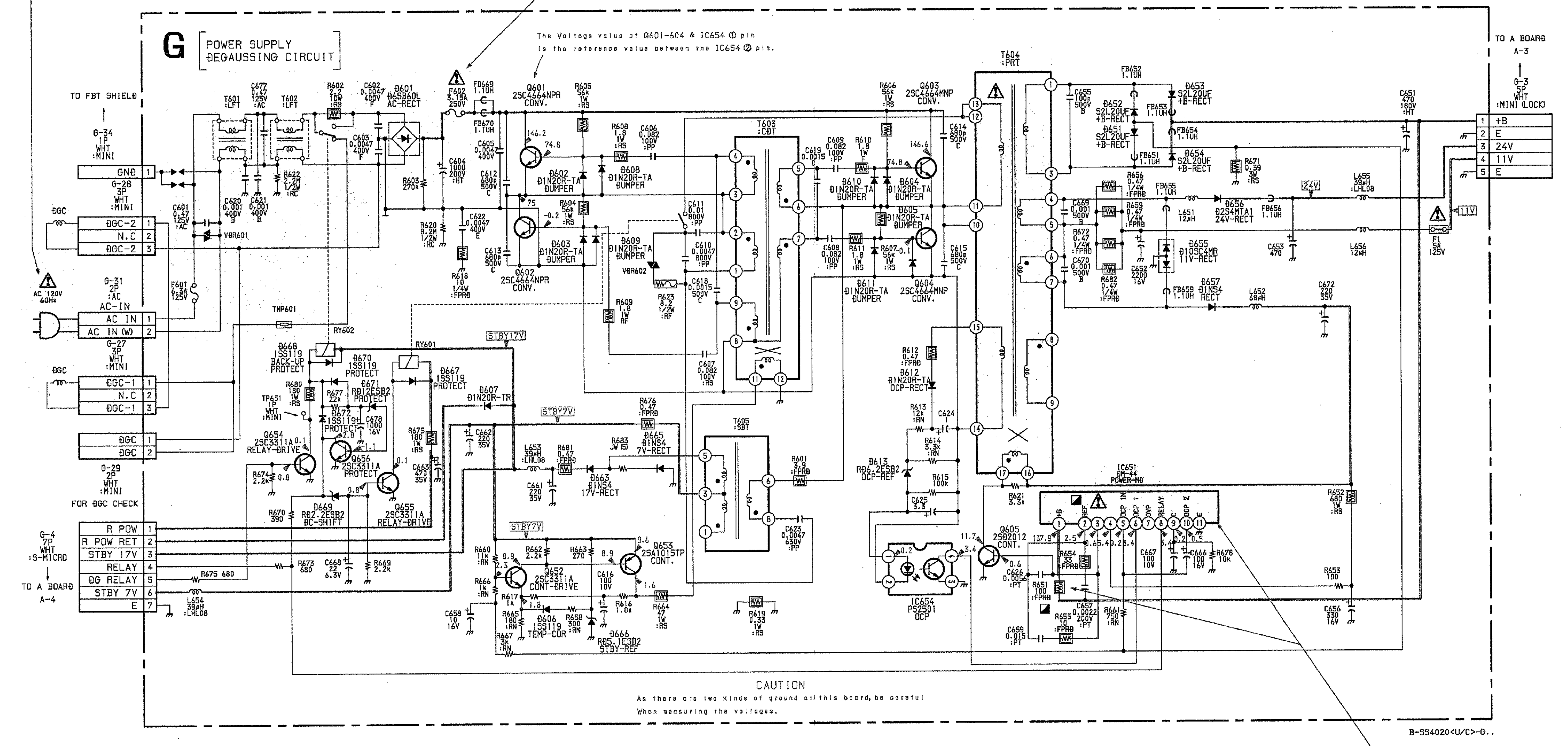


— A Board —



CAUTION (US MODEL ONLY)
This set is equipped with a polarized ac power cord plug (one blade of the plug is wider than the other). When replacing the ac power cord, be sure to connect it with specified part number as shown in this diagram.

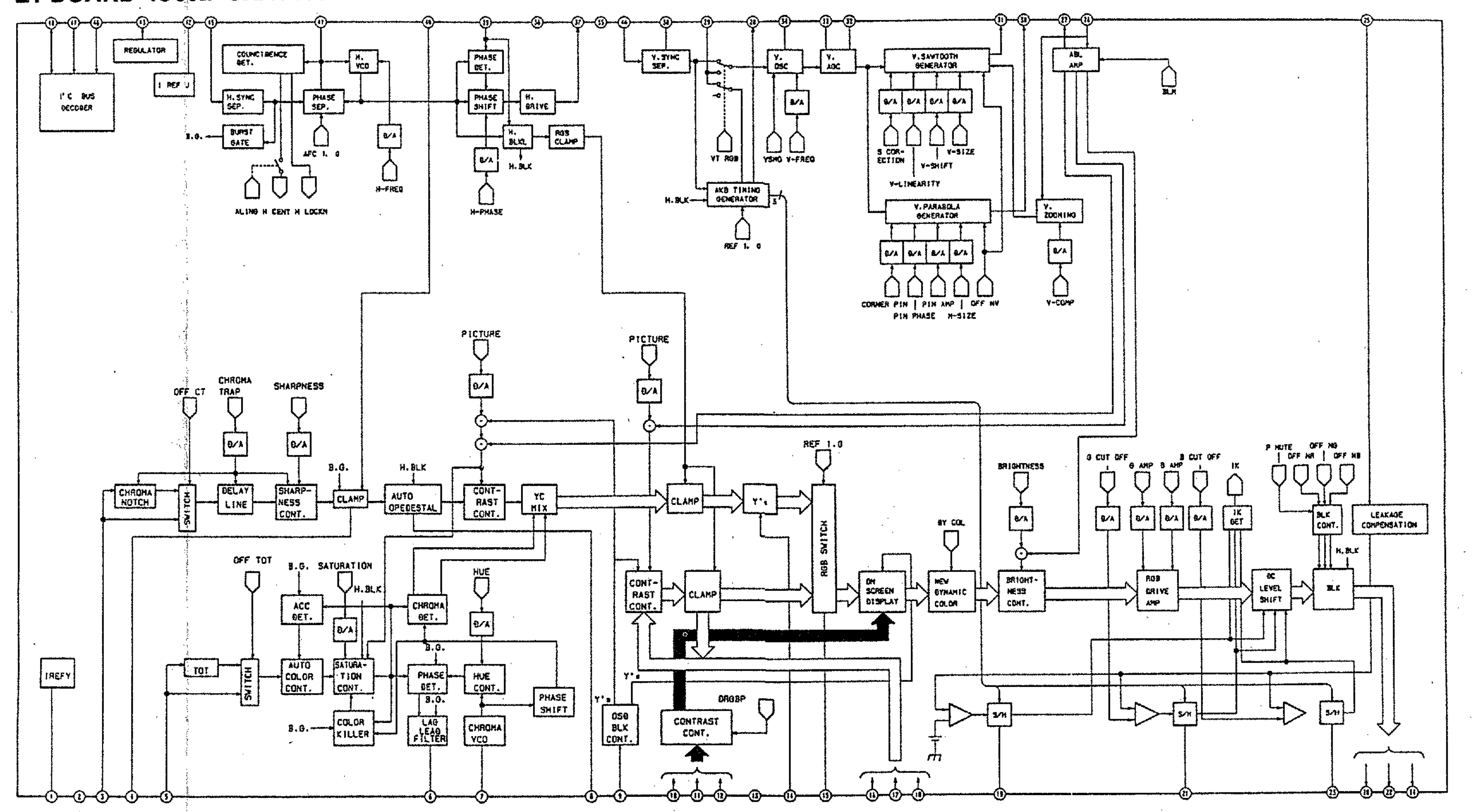
CAUTION
When taking a broken fuse (F602) off, discharge across C604 to avoid shock hazard.



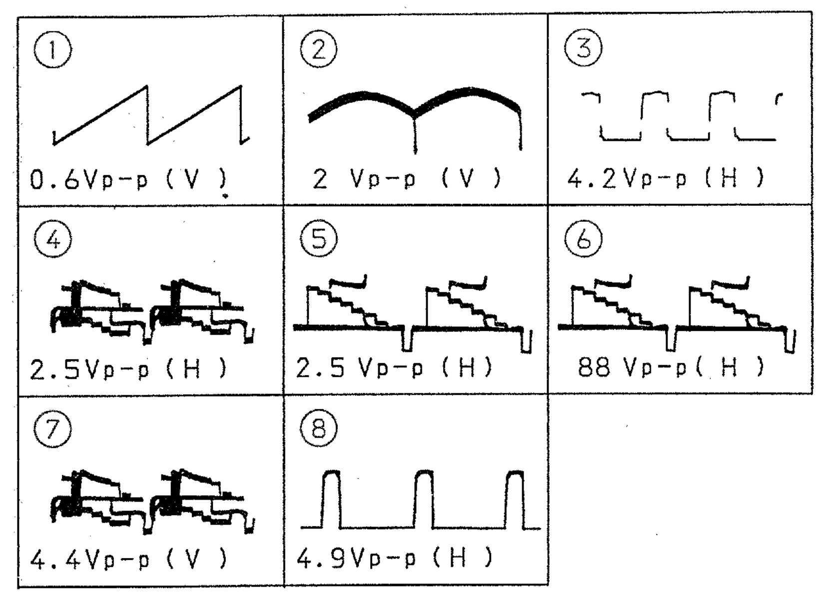
B-SS4020<U/C>-G..

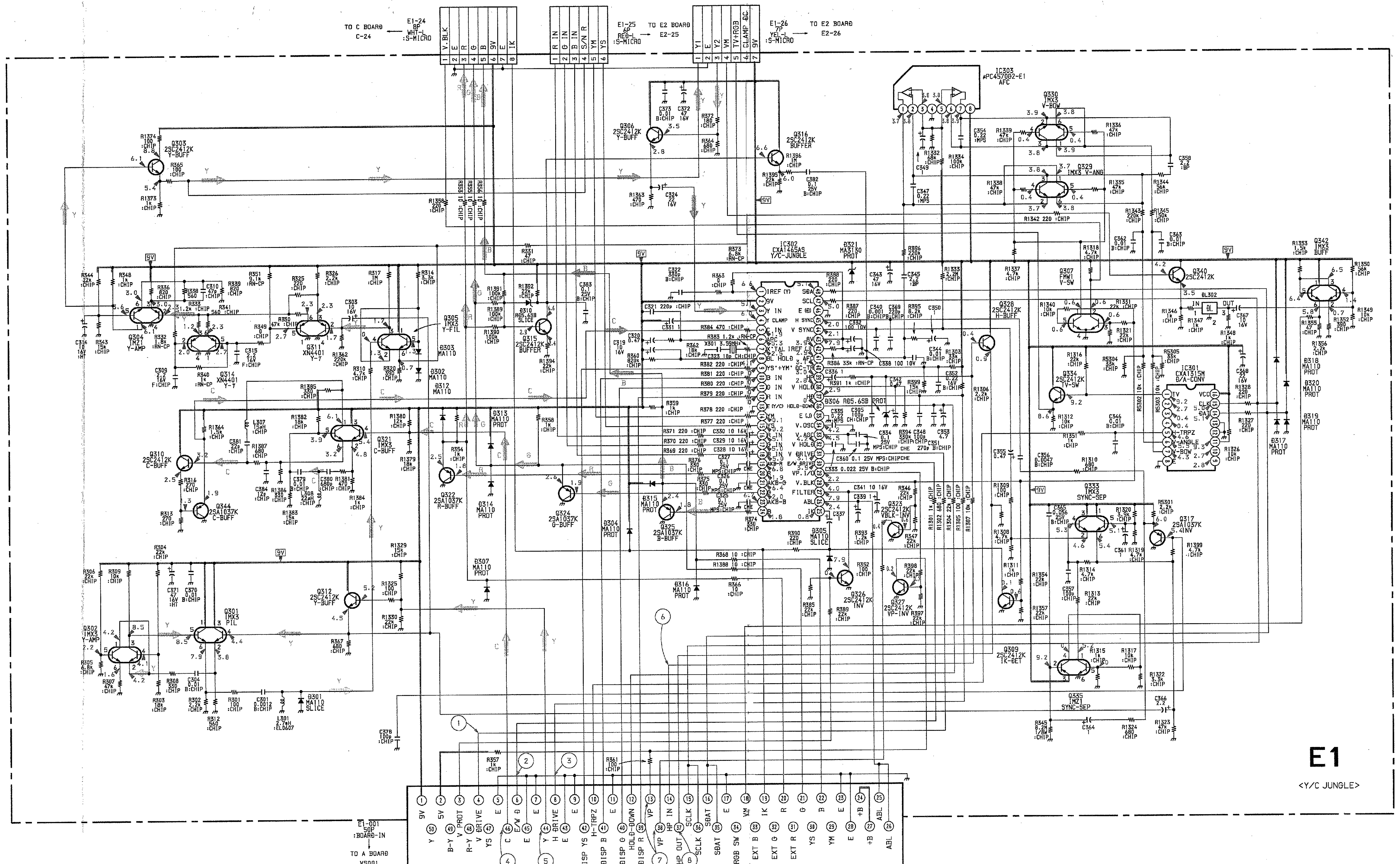
CAUTION
When replacing IC651 and R651, be sure to check the B+ line voltage value. Refer to the Safety Adjustment Section.:SEE PAGE 51-53

E1 BOARD IC302 CXA1465AS



— E1 Board —





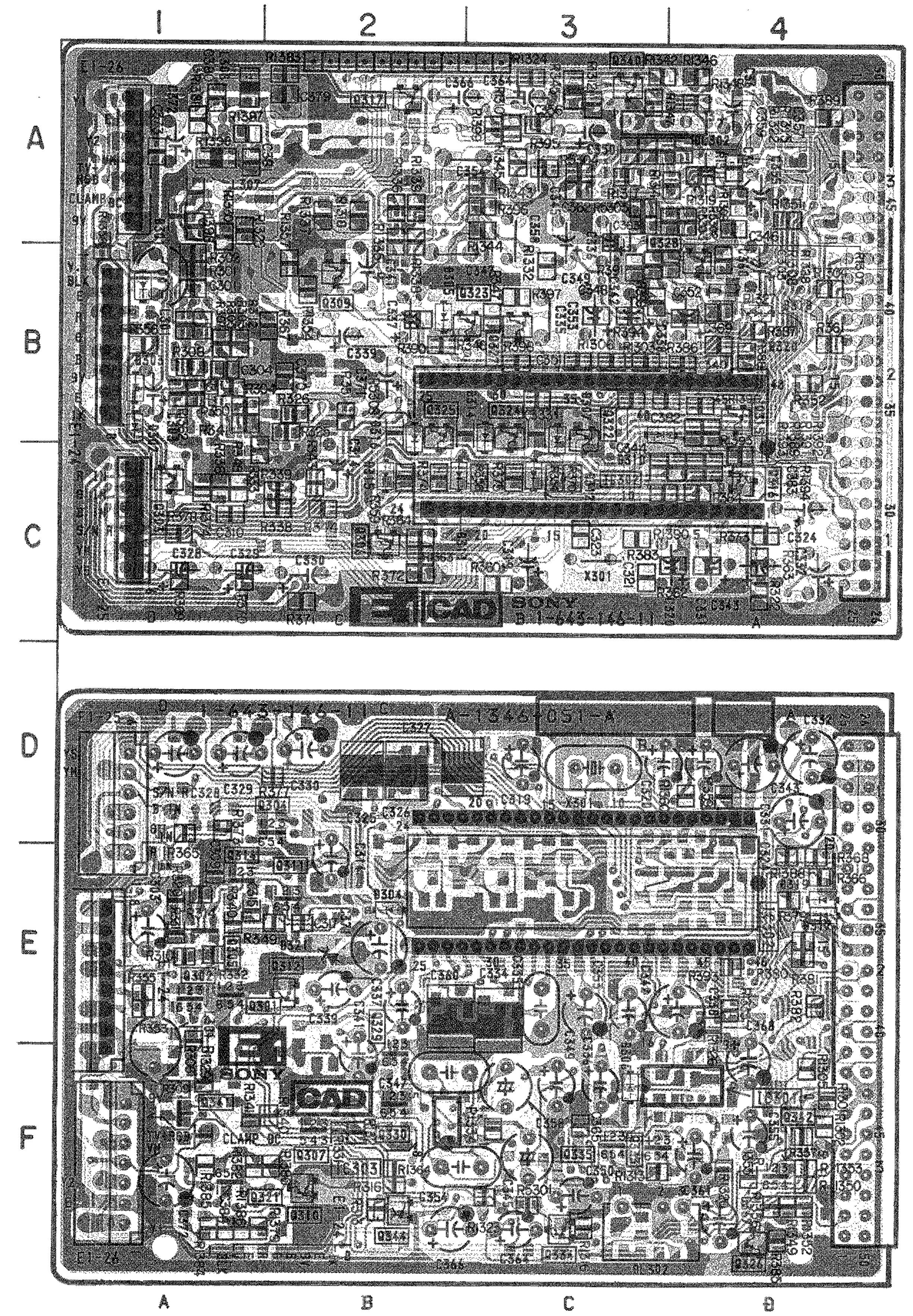
B-SS4020<U/C>-E1.

KV-32XBR90S RM-AV1100

E1 [Y/C JUNGLE]

- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

— E1 Board —

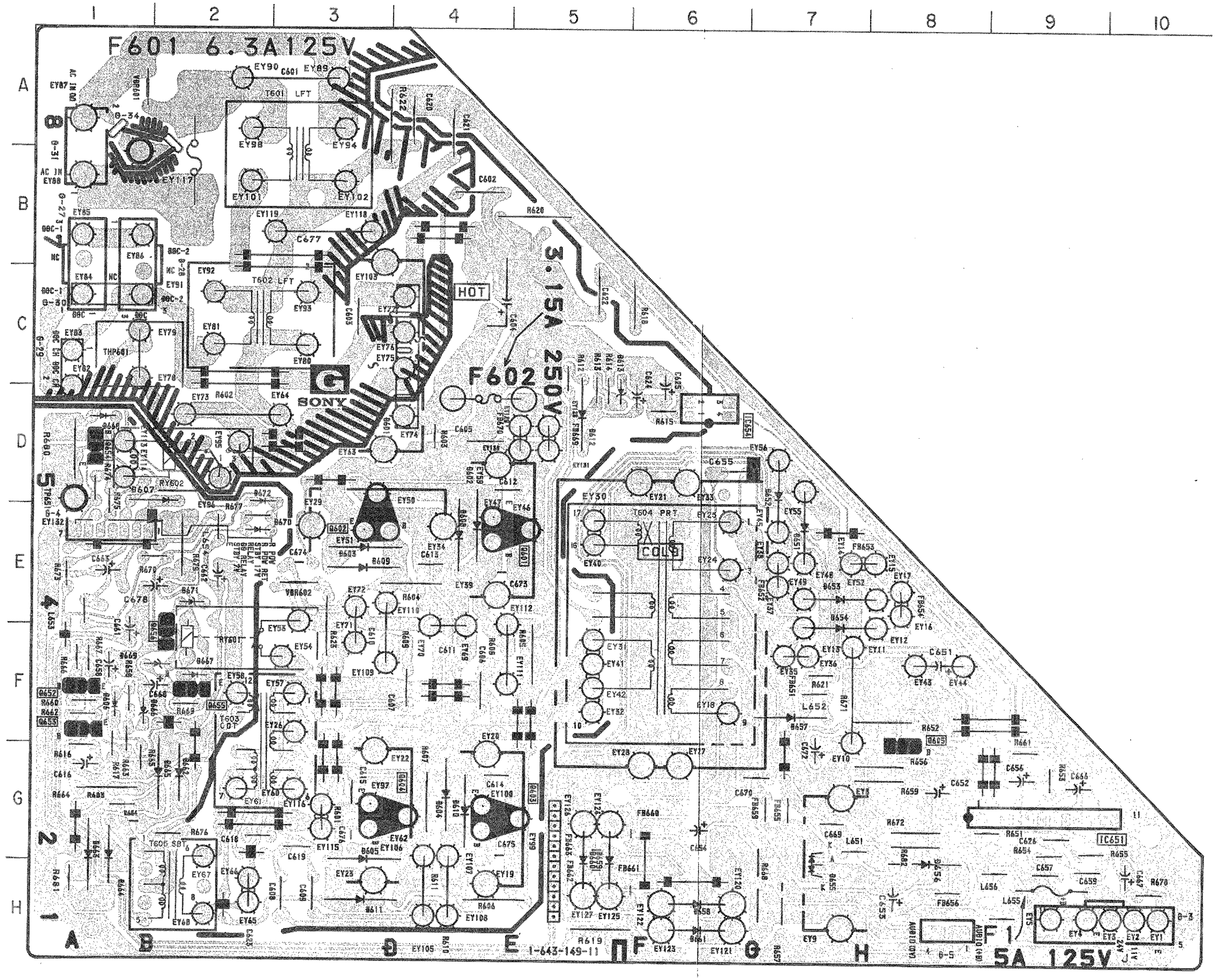


— E1 Board —

IC	
IC301	F-4
302	B-3
303	F-2
TRANSISTOR	
Q301	E-2
302	E-1
303	C-1
304	Đ-2
305	E-1
306	C-2
307	F-2
309	B-2
310	F-2
311	E-2
312	E-2
314	E-1
315	B-4
316	C-4
317	A-2
321	F-1
322	B-3
323	B-3
324	B-3
325	B-2
326	F-4
327	B-3
328	B-4
329	F-2
330	F-2
333	F-4
334	F-3
335	F-3
340	A-3
342	F-4
344	F-2
ĐIOĐE	
Đ301	B-1
302	B-1
303	B-1
304	E-2
305	B-2
306	F-3
307	B-3
310	B-3
312	C-3
313	C-2
314	B-3
315	C-2
316	B-2
317	E-4
318	B-4
Đ319	E-4
320	B-4
321	E-2

G [POWER SUPPLY, DEGAUSSING CIRCUIT]

— G Board —



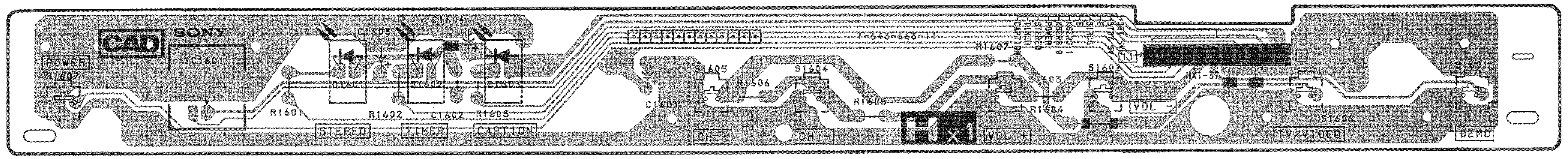
— G Board —

IC	
IC651	G-9
654	Đ-6
TRANSISTOR	
Q601	E-4
602	E-3
603	G-4
604	G-3
605	F-8
652	F-1
653	F-1
654	Đ-1
655	F-2
656	F-2
ĐIOĐE	
Đ601	C-4
602	E-4
603	E-3
604	G-4
605	G-3
606	F-1
607	Đ-2
608	E-4
609	E-3
610	G-4
611	H-3
612	Đ-5
613	Đ-5
651	E-7
652	Đ-7
653	E-7
654	E-7
655	G-7
656	G-8
657	F-7
663	G-1
665	G-2
666	F-1
667	F-2
668	Đ-1
669	F-2
670	E-2
671	E-2
672	Đ-2

TEST POINT	
TP651	Đ-1

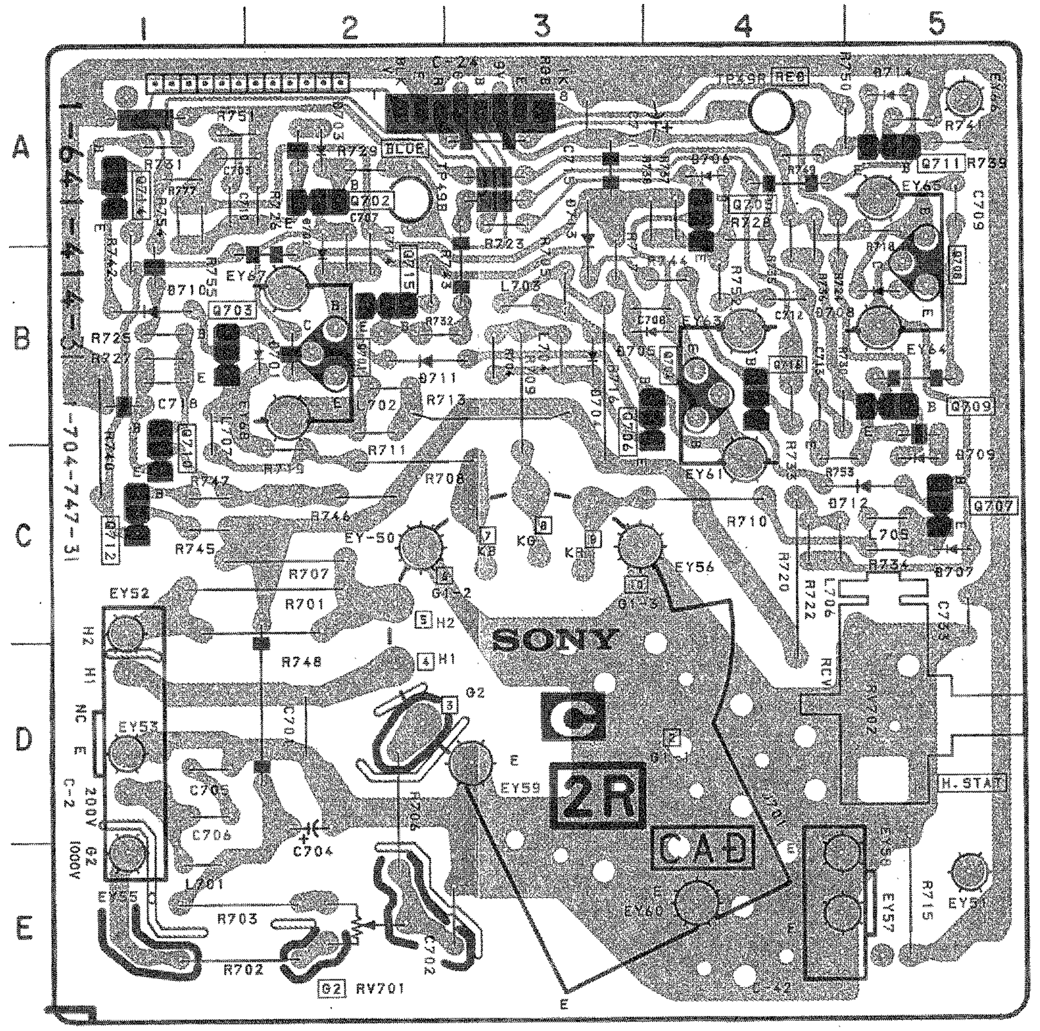
HX1 [USER CONT. SW, RC SENSOR, LED]

— HX1 Board —



C [R.G.B. OUT]

— C Board —



— C Board —

TRANSISTOR	
Q701	B-2
702	A-2
703	B-1
704	B-4
705	A-4
706	B-4
707	C-5
708	B-5
709	B-5
710	C-1
711	A-5
712	C-1
714	A-1
715	B-3
716	B-4

DIODE	
D701	B-2
702	B-2
703	A-2
704	B-3
705	B-4
706	A-4
707	C-5
708	B-5
709	B-5
710	B-1
711	B-3
712	C-5
713	B-3
714	A-5

VALIABLE RESISTOR	
RV701	E-2
702	C-5

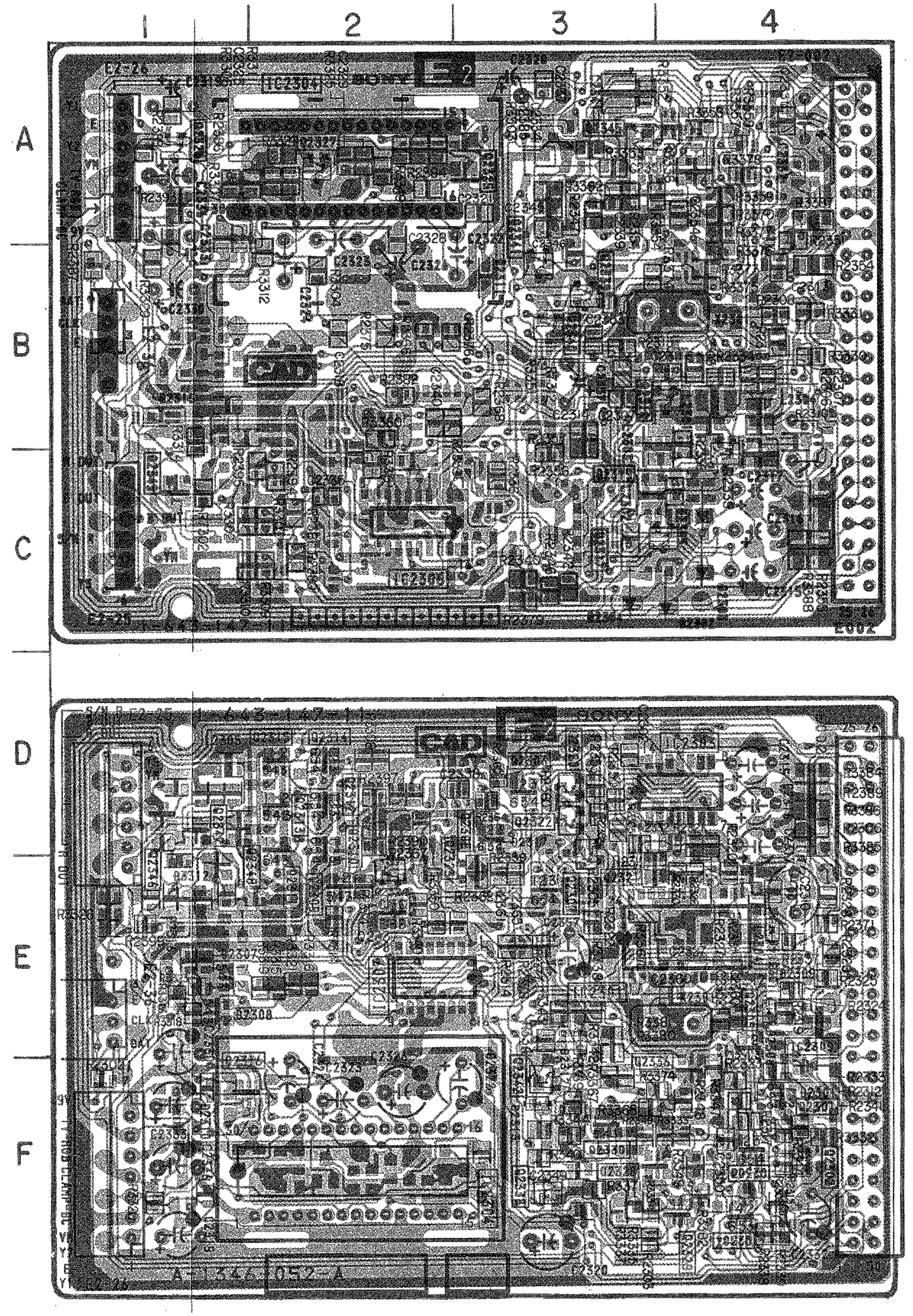
TEST POINT	
TP49B	A-2
49R	A-4

KV-32XBR90S
RM-AV1100

E2 [SHARPNESS CONT., CHARACTER GENERATOR]

- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

— E2 Board —

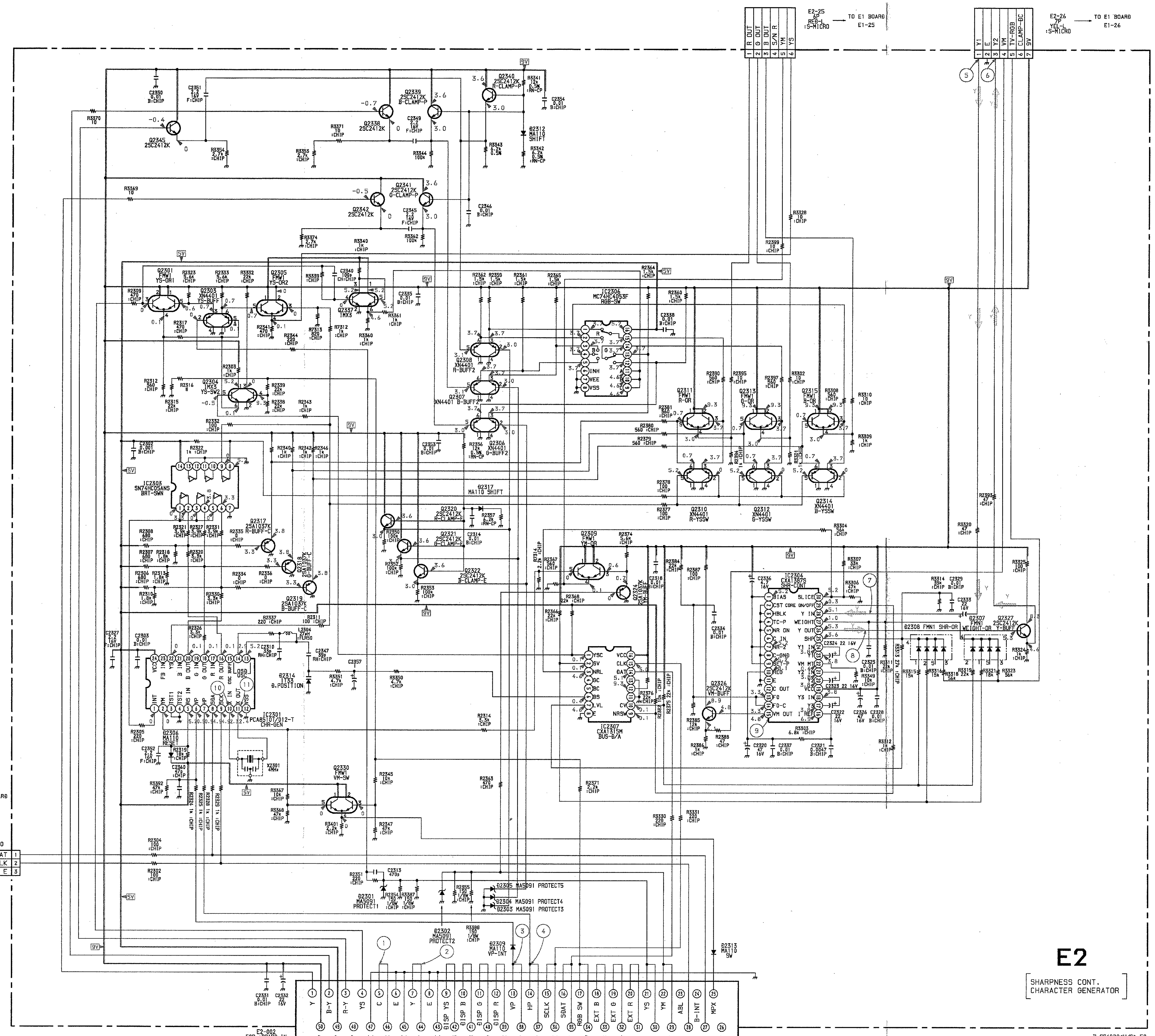


— E2 Board —

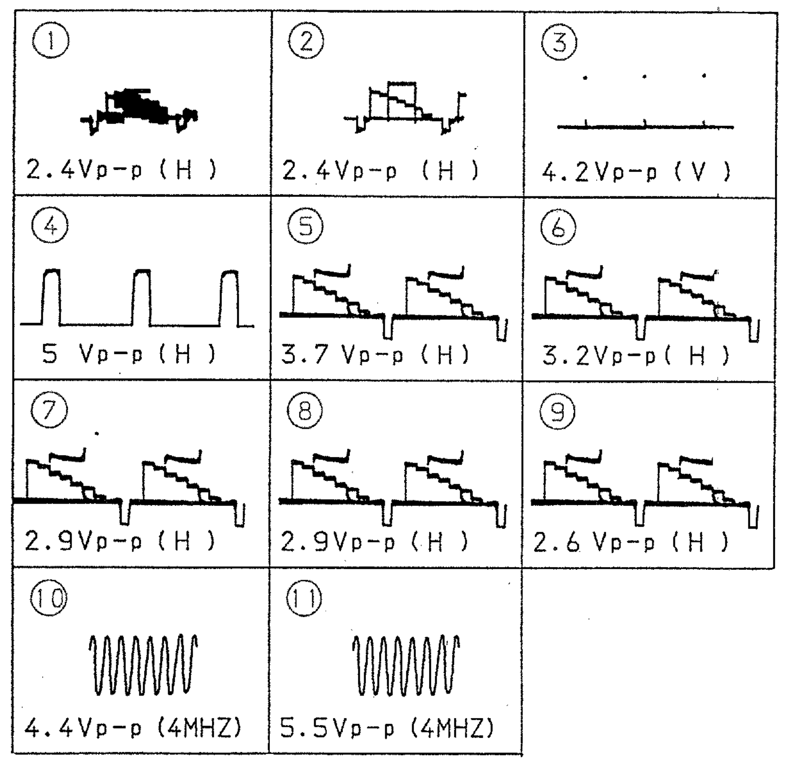
IC	
IC2301	E-4
2303	D-4
2304	A-2
2306	C-2
2307	E-2

TRANSISTOR	
Q2301	F-4
2303	F-4
2304	F-4
2305	E-4
2306	D-3
2307	E-3
2308	D-3
2309	E-2
2310	D-2
2311	D-2
2312	D-2
2313	D-2
2314	D-2
2315	D-2
2317	C-4
2318	B-4
2319	C-4
2320	D-3
2321	D-3
2322	D-3
2324	E-2
2326	A-1
2327	A-2
2330	F-3
2337	E-2
2338	F-3
2339	B-3
2340	B-3
2341	B-3
2342	F-3
2345	A-3

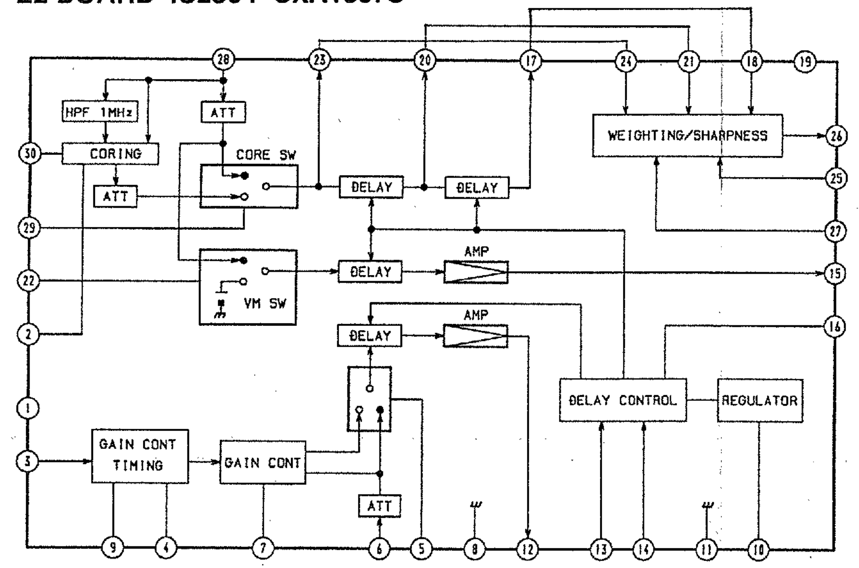
DIODE	
D2301	F-4
2302	C-4
2303	C-4
2304	C-3
2305	C-4
2306	F-4
2307	E-1
2308	E-1
2309	E-4
2312	E-3
2313	F-3
2314	E-4
2317	D-3

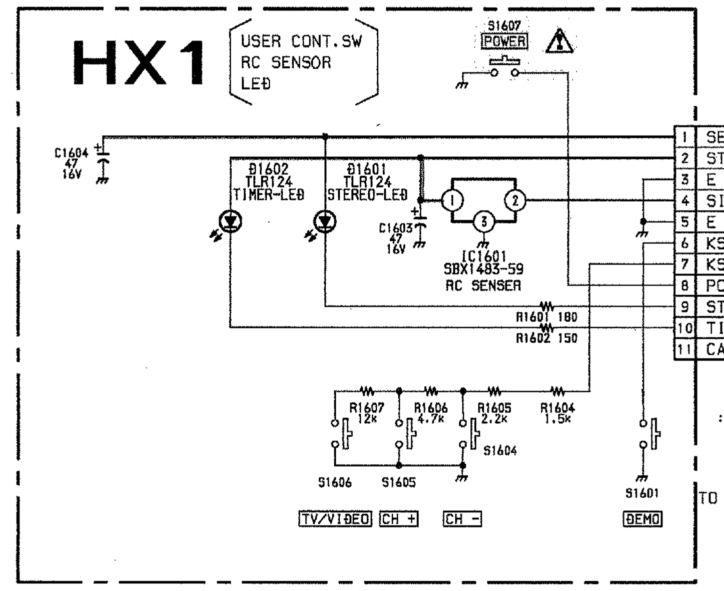


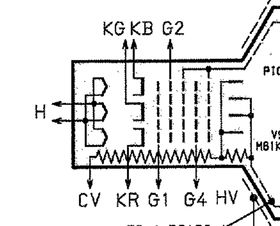
— E2 Board —



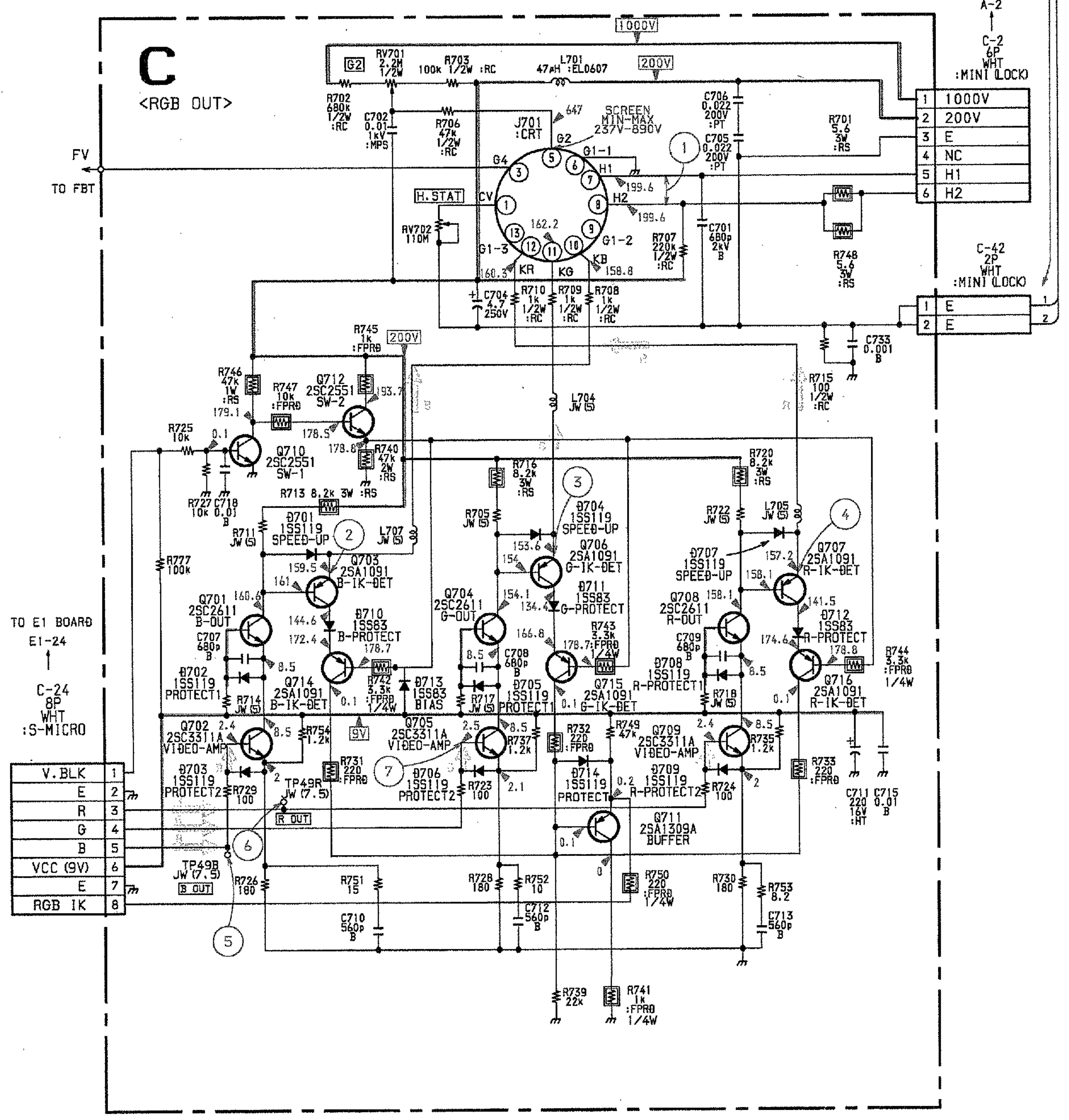
E2 BOARD IC2304 CXA1387S



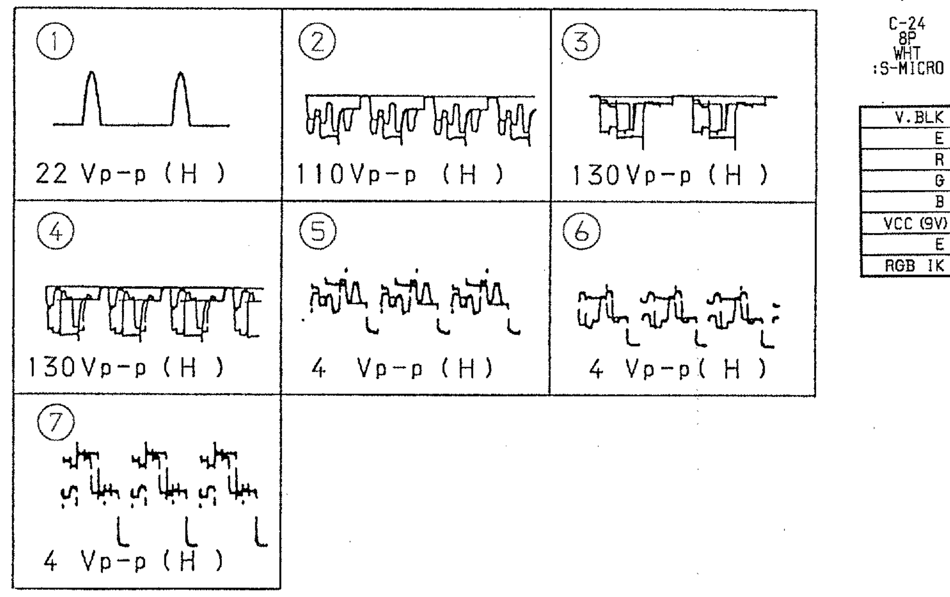




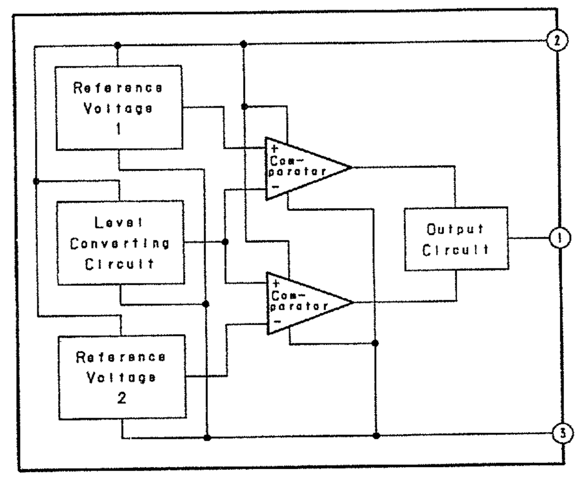
CAUTION
BE SURE TO CONNECT THE CONNECTOR C-42 FOR SAFETY.



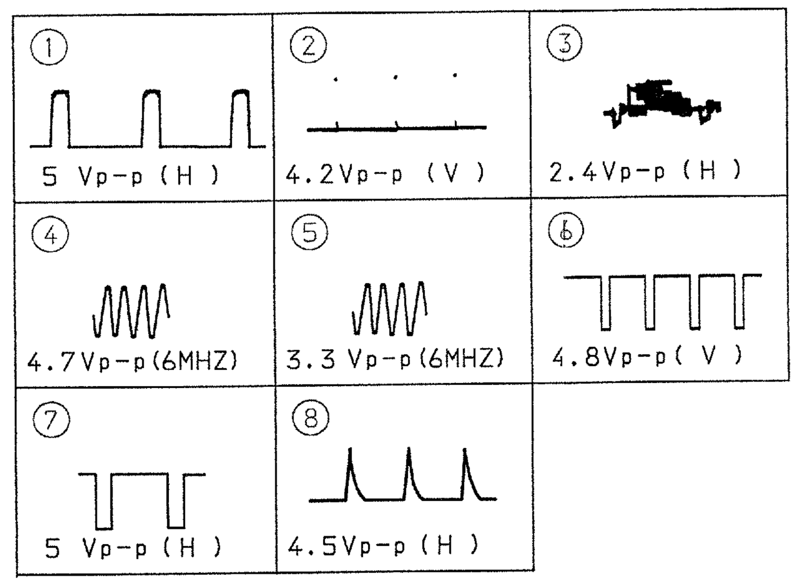
— C Board —

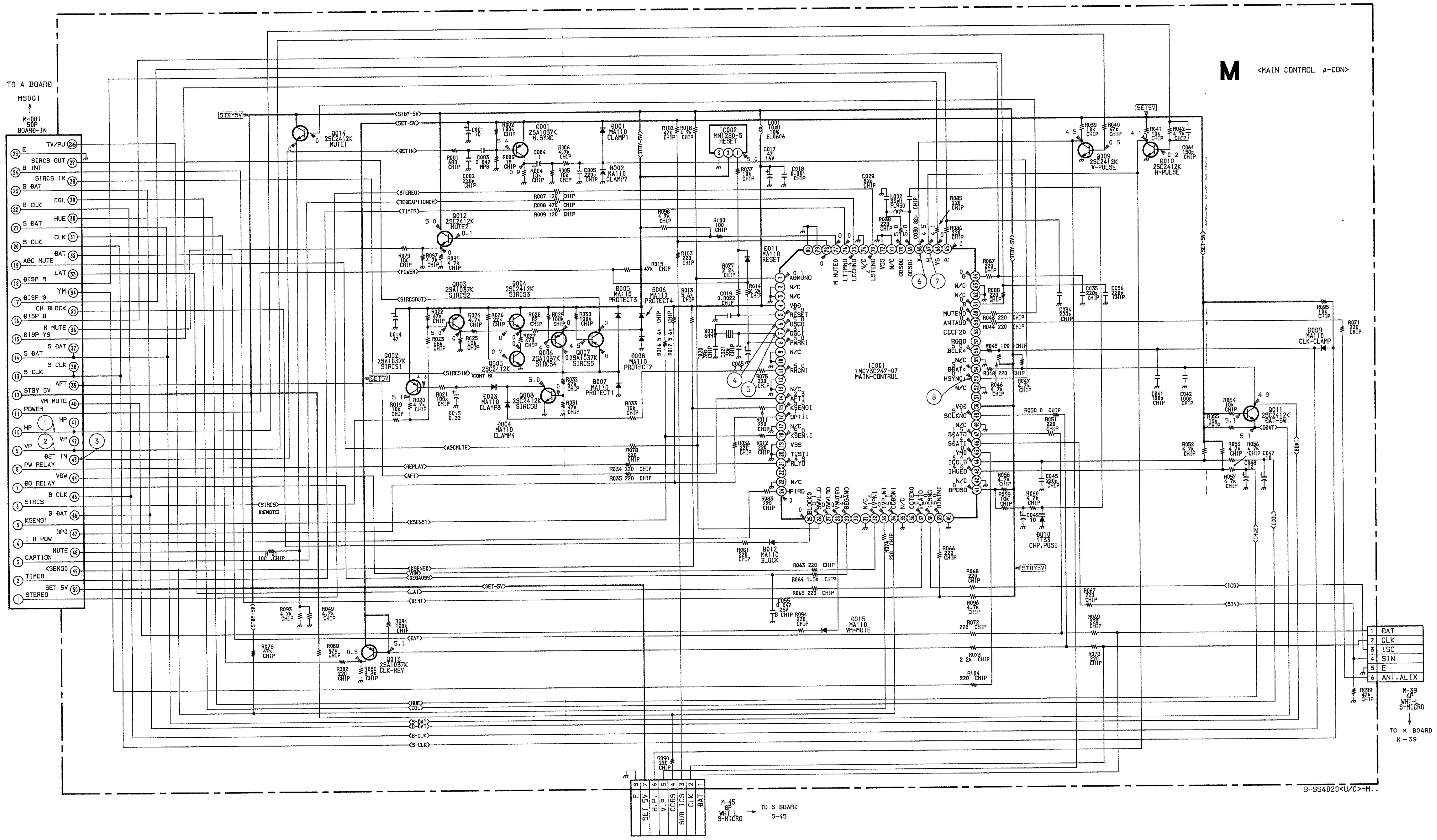


M BOARD IC002 MN1280-S

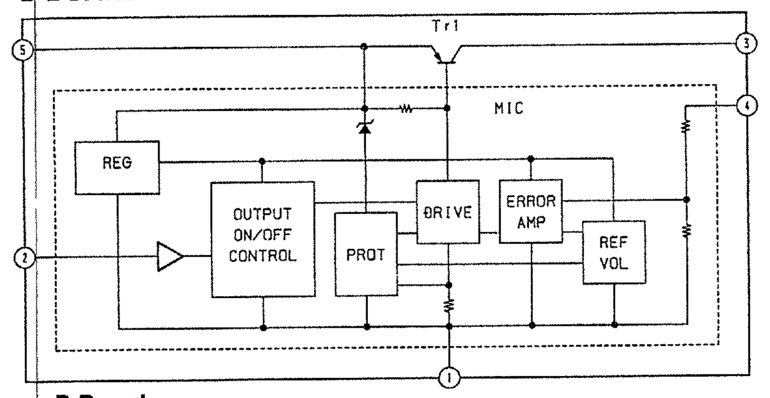


— M Board —

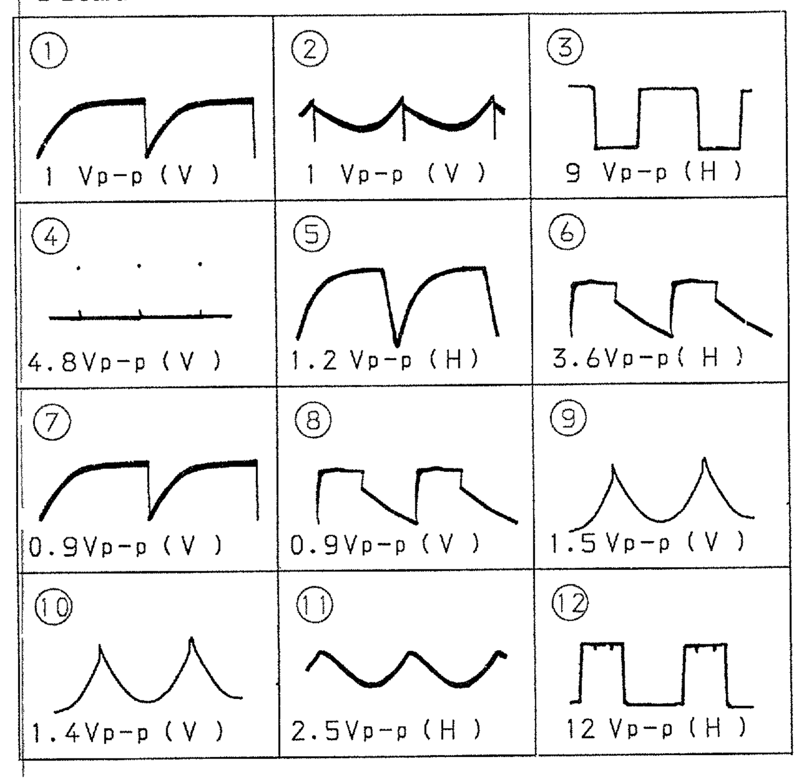


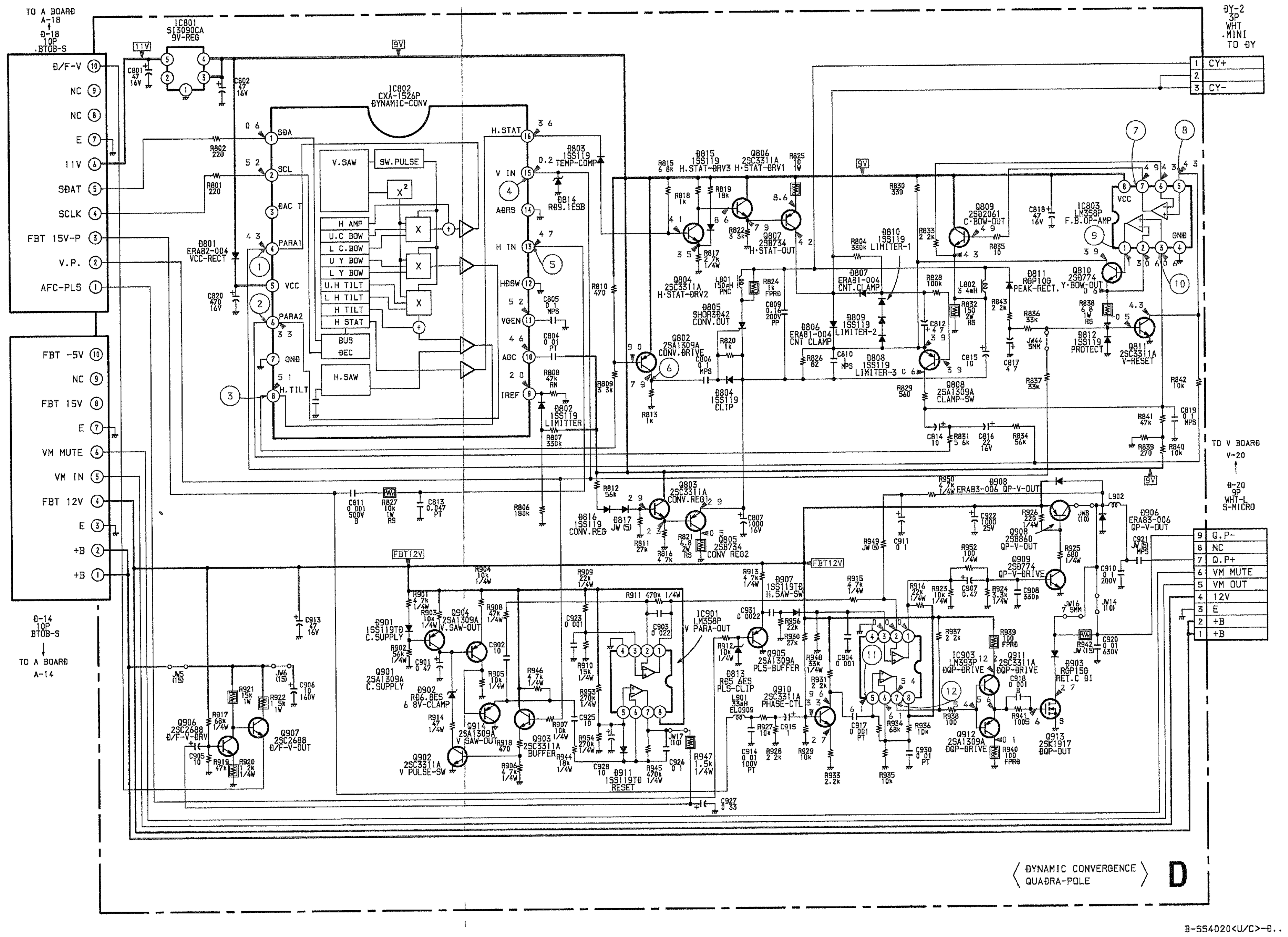


D BOARD IC801 SI-3090CA



— D Board —

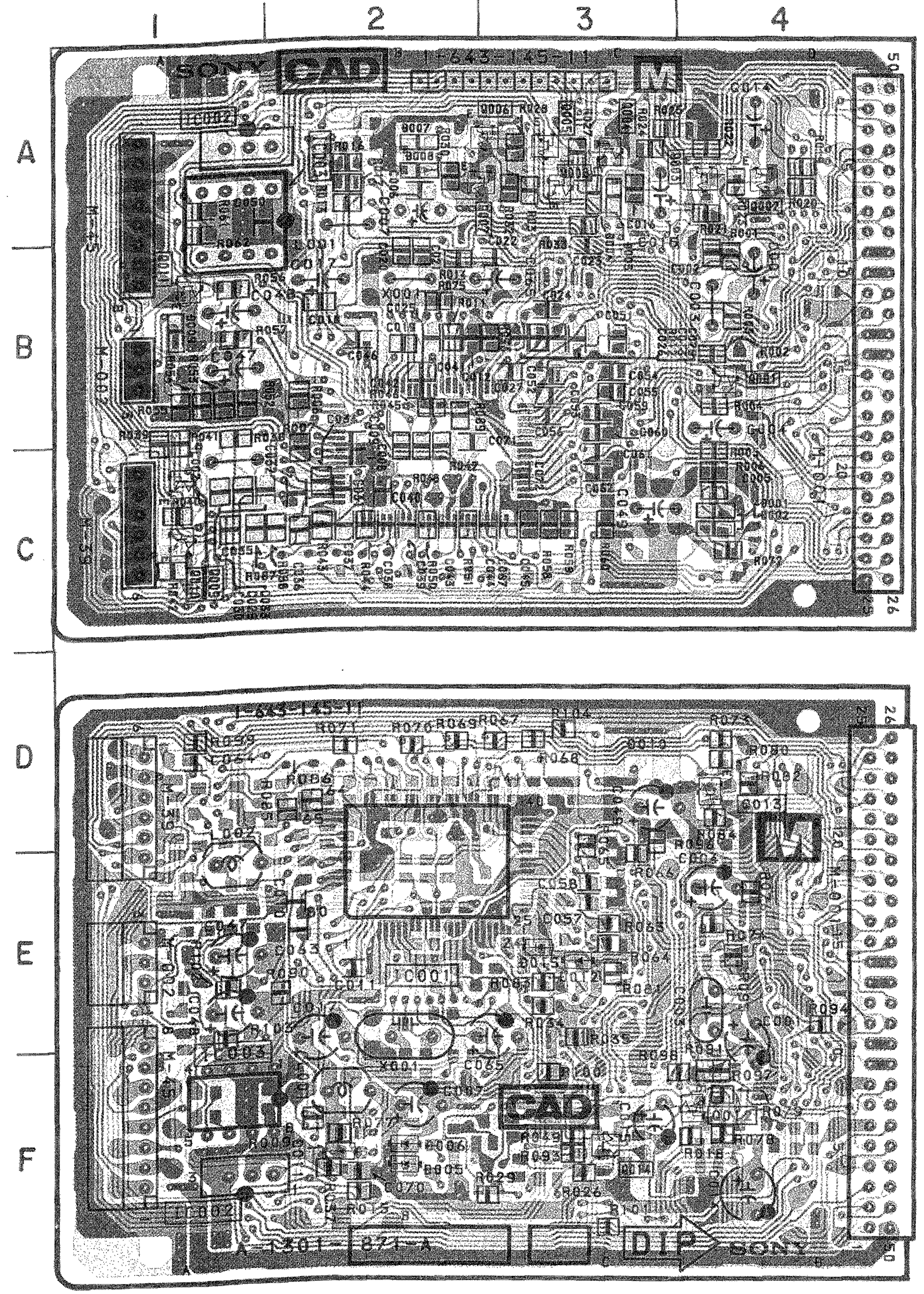




M [MAIN CONTROL μ-CON]

- ▒ : Pattern from the side which enables seeing.
- ░ : Pattern of the rear side.

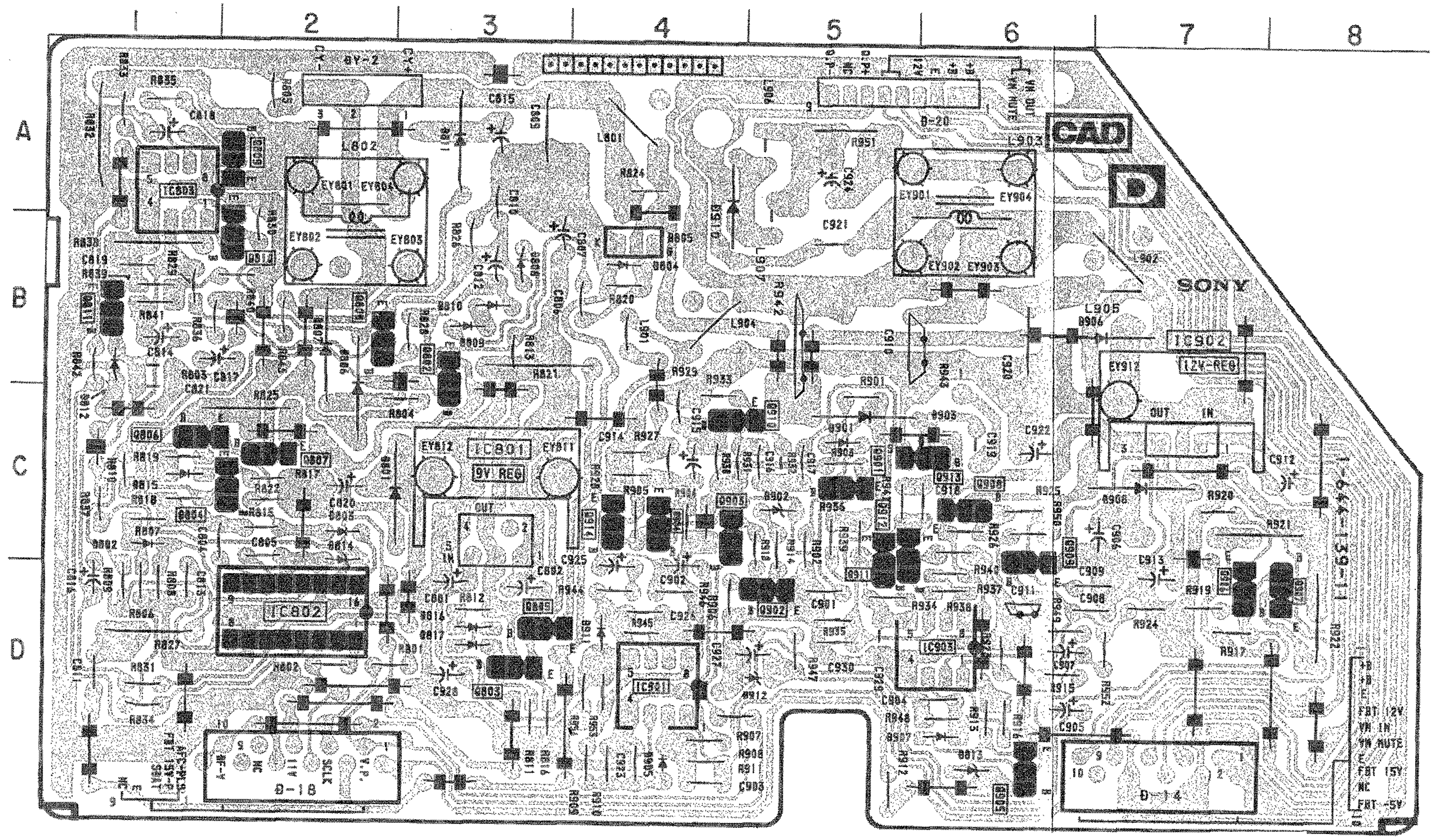
— M Board —



IC	
IC001	E-2
002	A-1
TRANSISTOR	
Q001	B-4
002	A-4
003	A-4
004	A-3
005	A-3
006	A-3
007	A-3
008	A-3
009	C-1
010	C-1
011	B-1
012	F-4
013	D-4
014	F-3
DIODE	
D001	C-4
002	C-4
003	A-3
004	A-3
005	F-2
006	F-2
007	A-2
008	A-2
009	B-1
010	D-3
011	F-2
012	E-3
015	E-3

D [DYNAMIC CONVERGENSE, QUADRA-POLE]

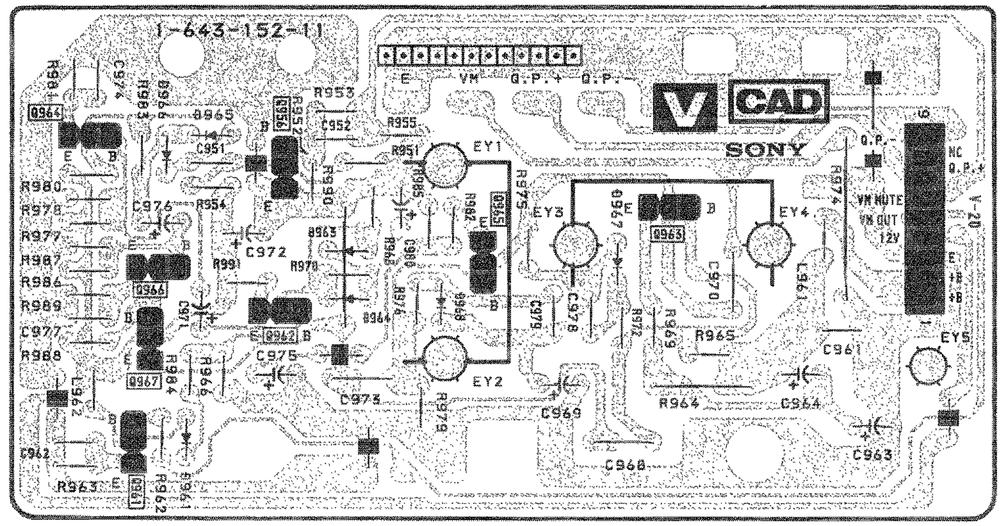
— D Board —



IC	
IC801	C-3
802	D-2
803	A-1
901	D-4
903	D-6
TRANSISTOR	
Q802	B-3
803	D-3
804	C-2
805	D-3
806	C-1
807	C-2
808	B-2
809	A-2
810	B-2
811	B-1
901	C-5
902	D-5
903	C-4
904	C-4
905	D-6
906	D-7
907	D-8
908	C-6
909	C-6
910	C-4
911	C-5
912	C-5
913	C-6
914	C-4
DIODE	
D801	C-3
802	C-1
803	C-2
804	B-4
805	B-4
806	B-2
807	B-2
808	B-3
809	B-3
810	B-3
811	A-3
812	B-1
813	D-6
814	C-2
815	C-1
816	D-3
901	C-5
902	C-5
903	C-5
906	B-7
D907	D-6
908	C-7
911	D-4

V [VELOCITY MODULATION]

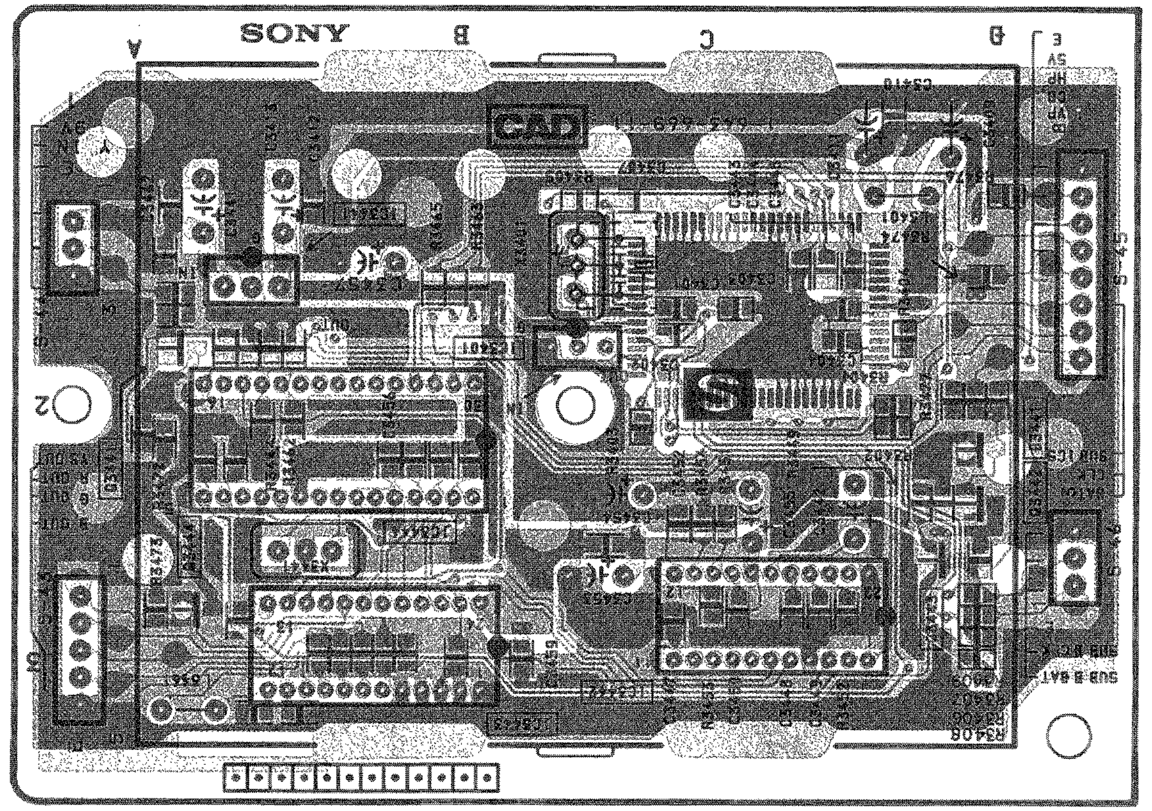
— V Board —

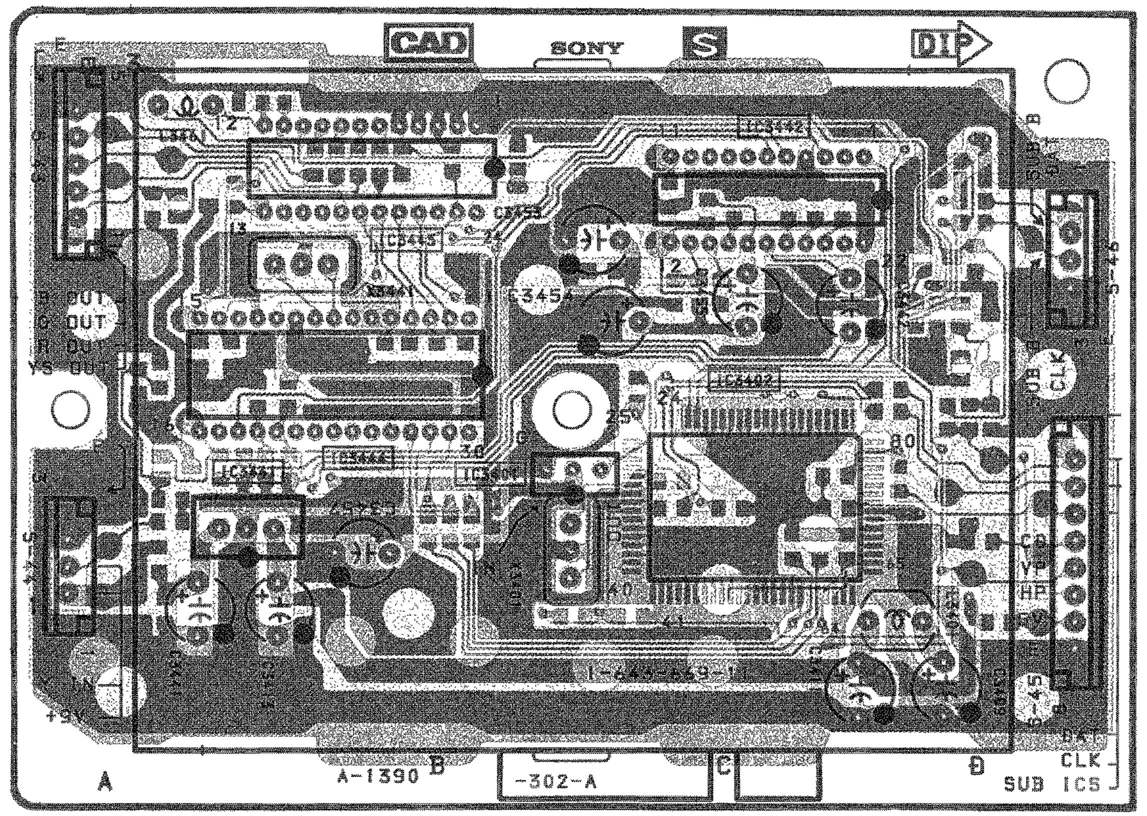


S [SUB-CONTROL μ-CON, CLOSED CAPTION DECODER]

- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

— S Board —

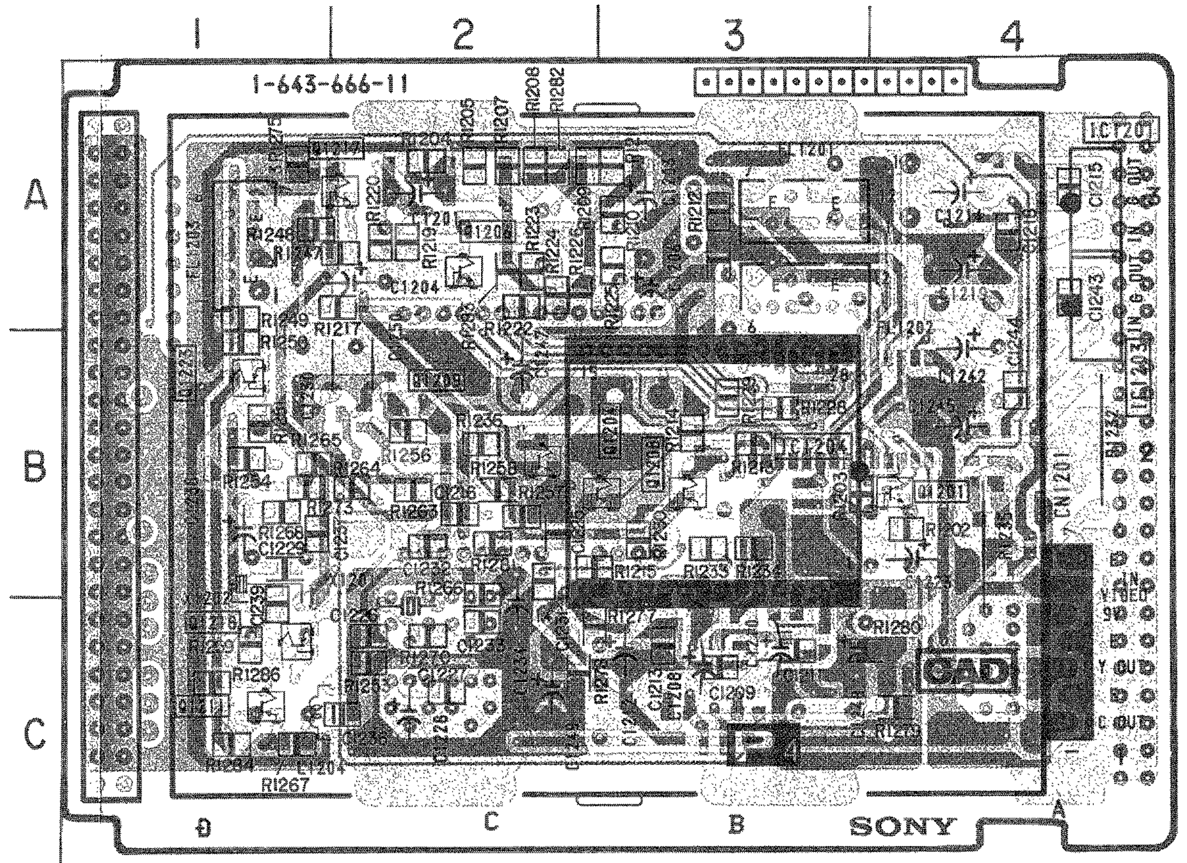


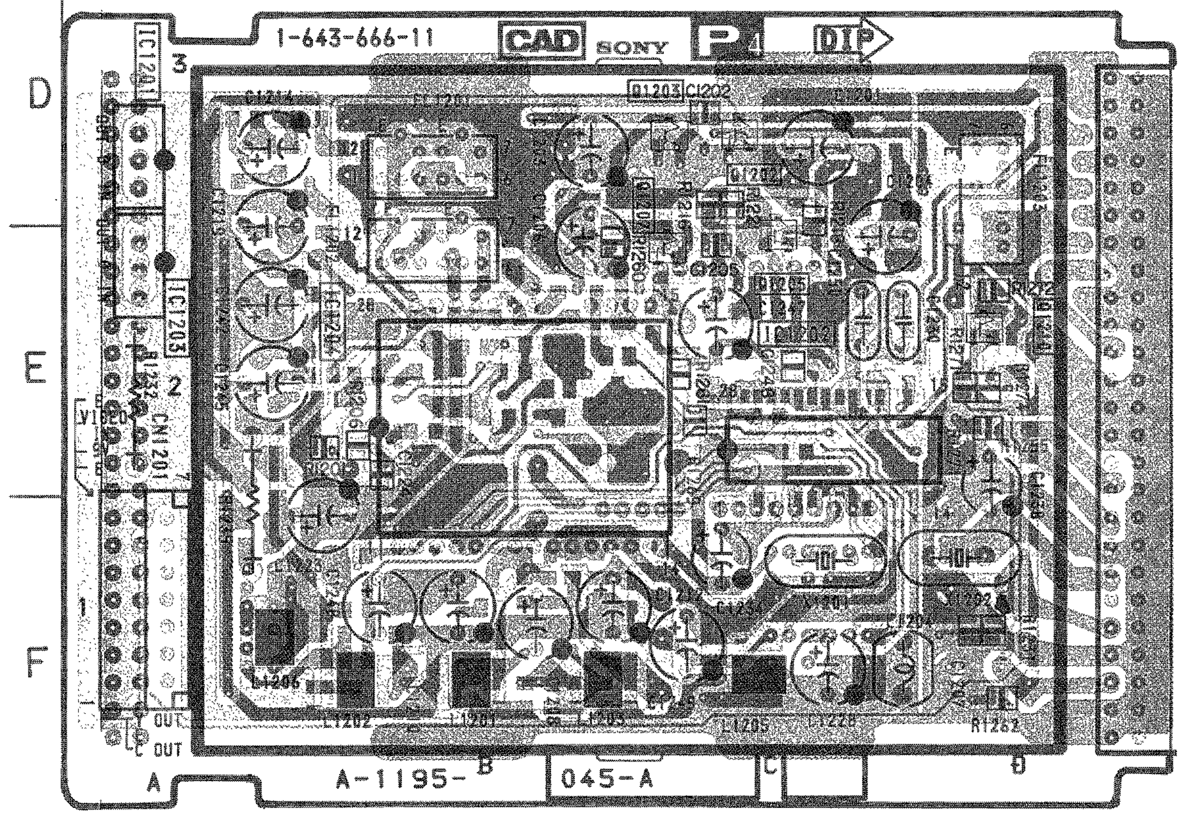


P4 [DIGITAL COMB FITER]

- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

— P4 Board —

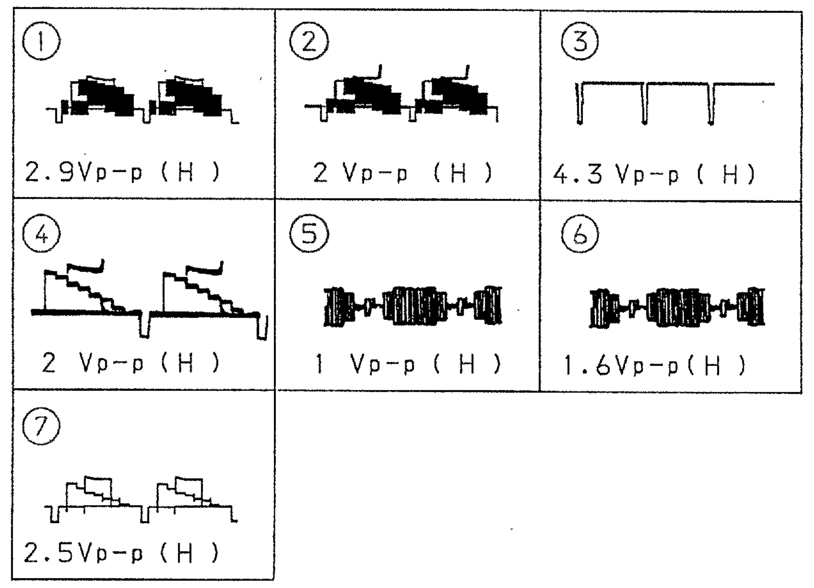




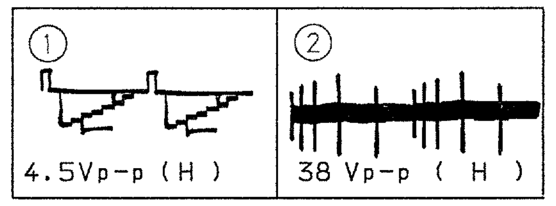
— P4 Board —

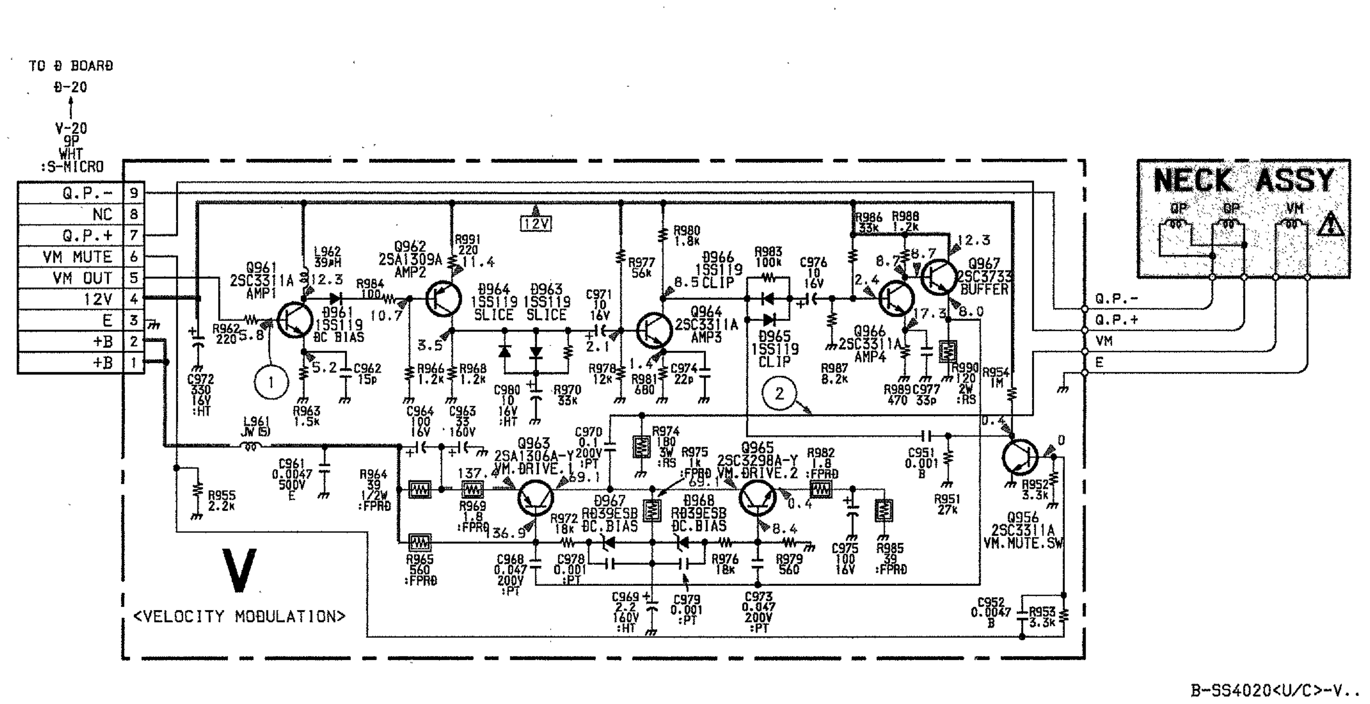
IC	
IC1201	A-4
1202	E-3
1203	A-4
1204	B-3
TRANSISTOR	
Q1201	B-4
1202	D-3
1203	D-3
1204	B-3
1205	E-3
1206	A-2
1207	E-3
1208	B-8
1209	B-2
1210	E-4
1211	C-1
1217	A-2
1218	C-1
1223	B-1

— P4 Board —

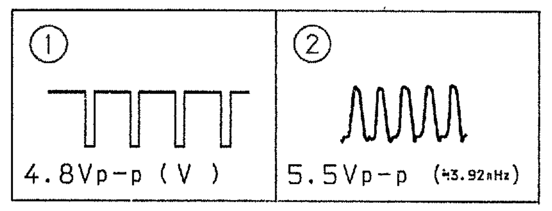


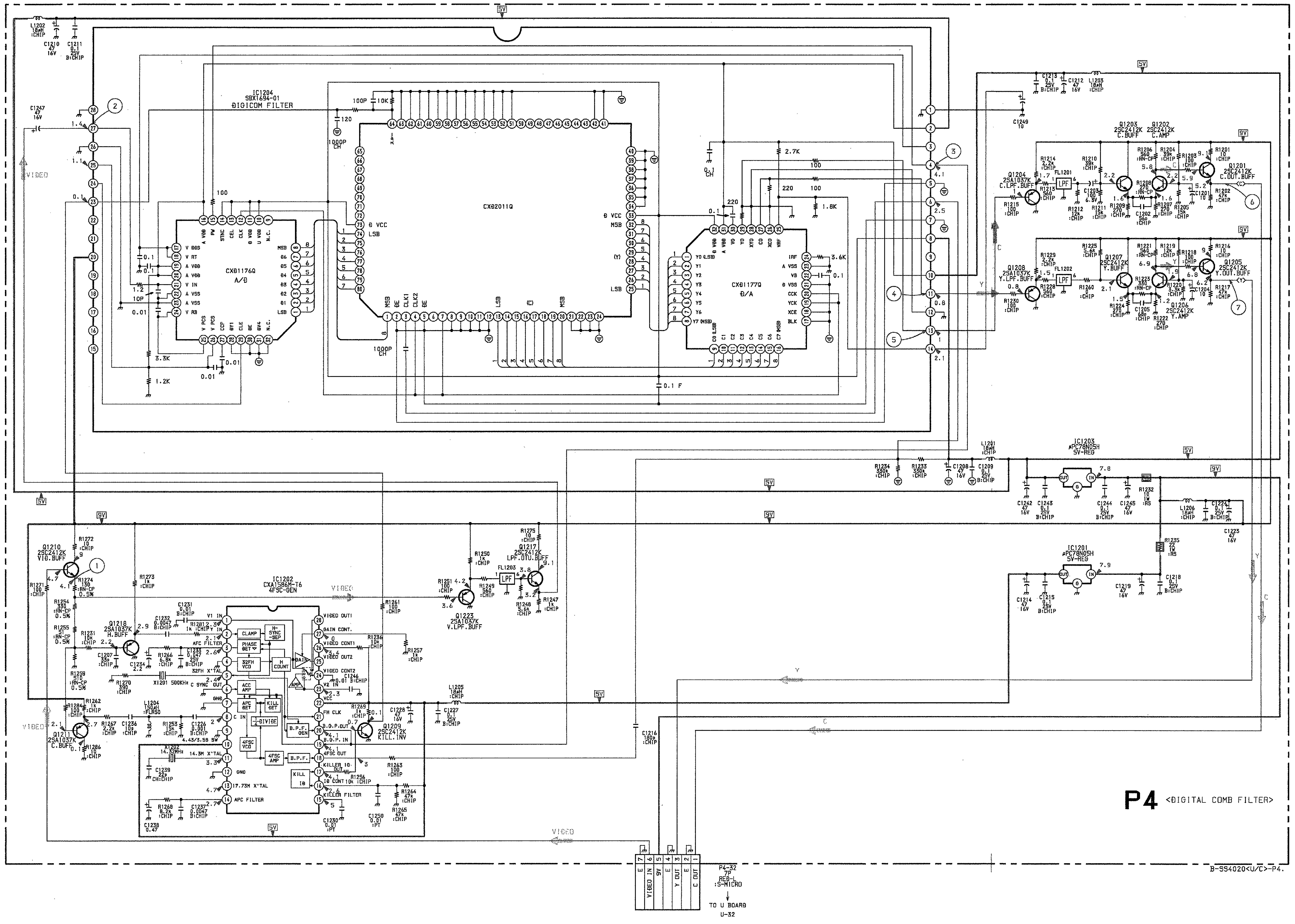
— V Board —

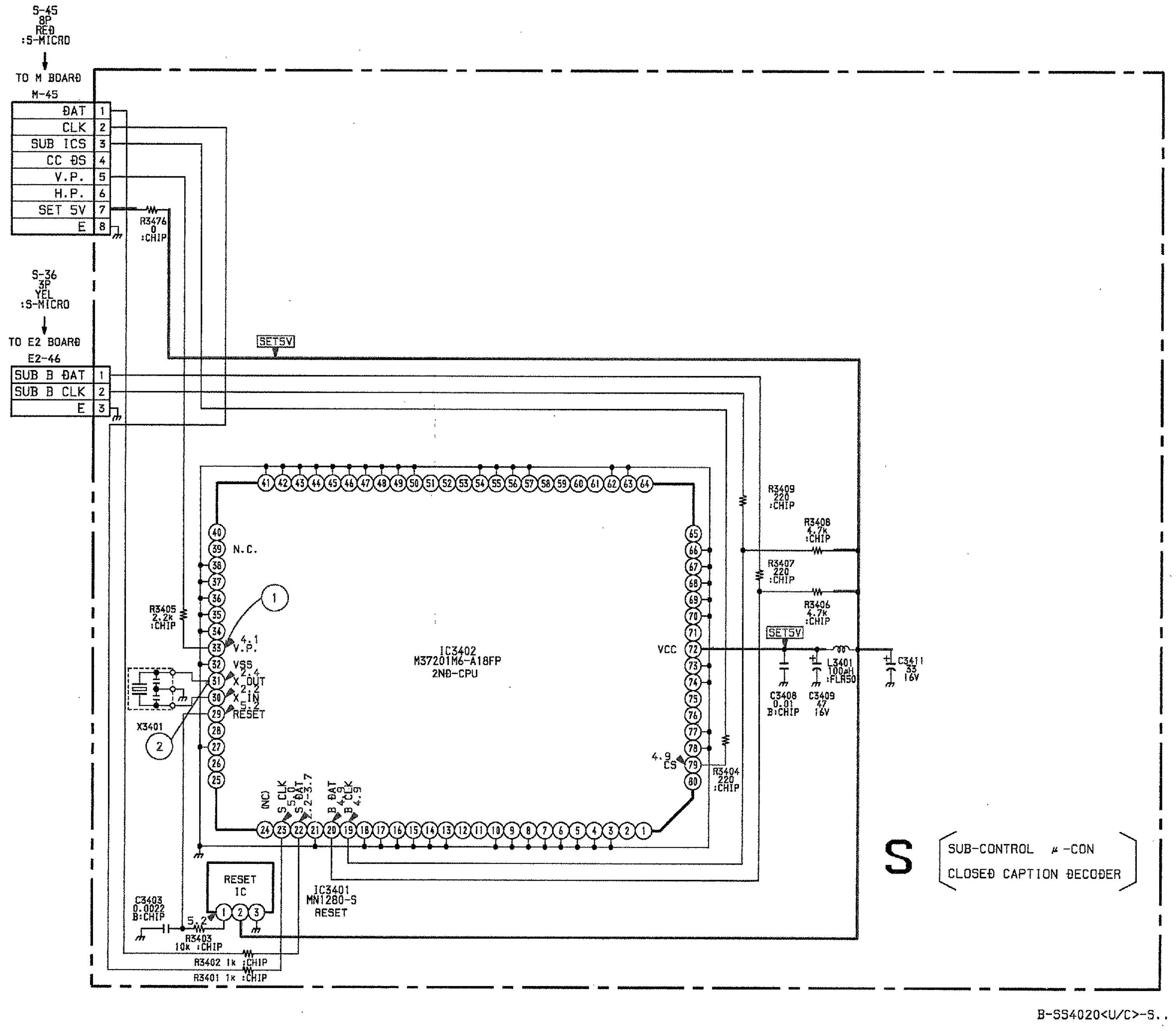




— S Board —

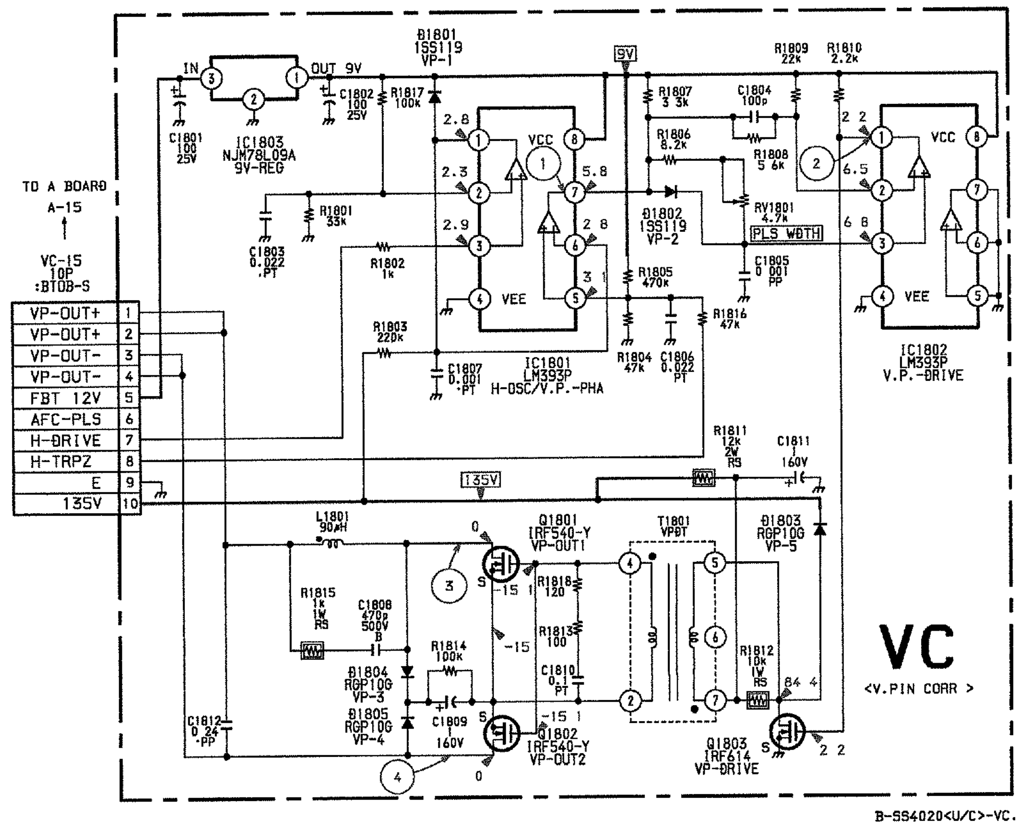




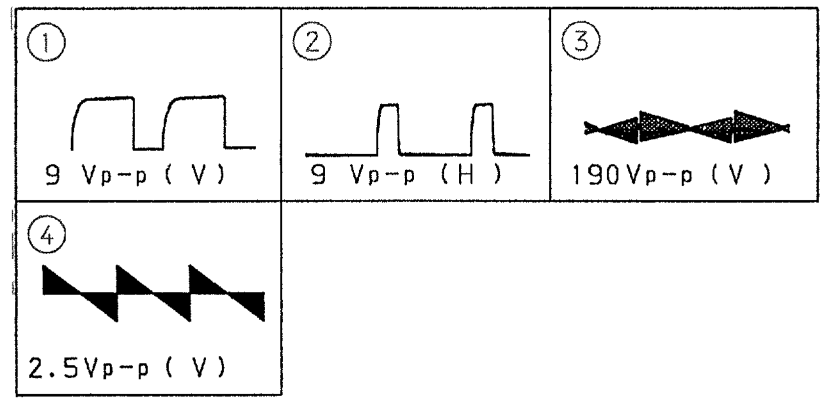


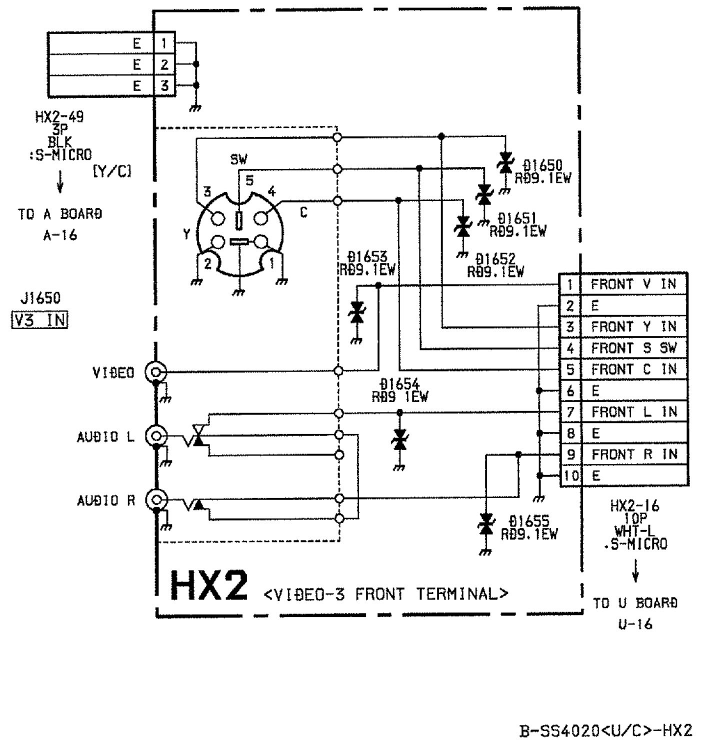
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

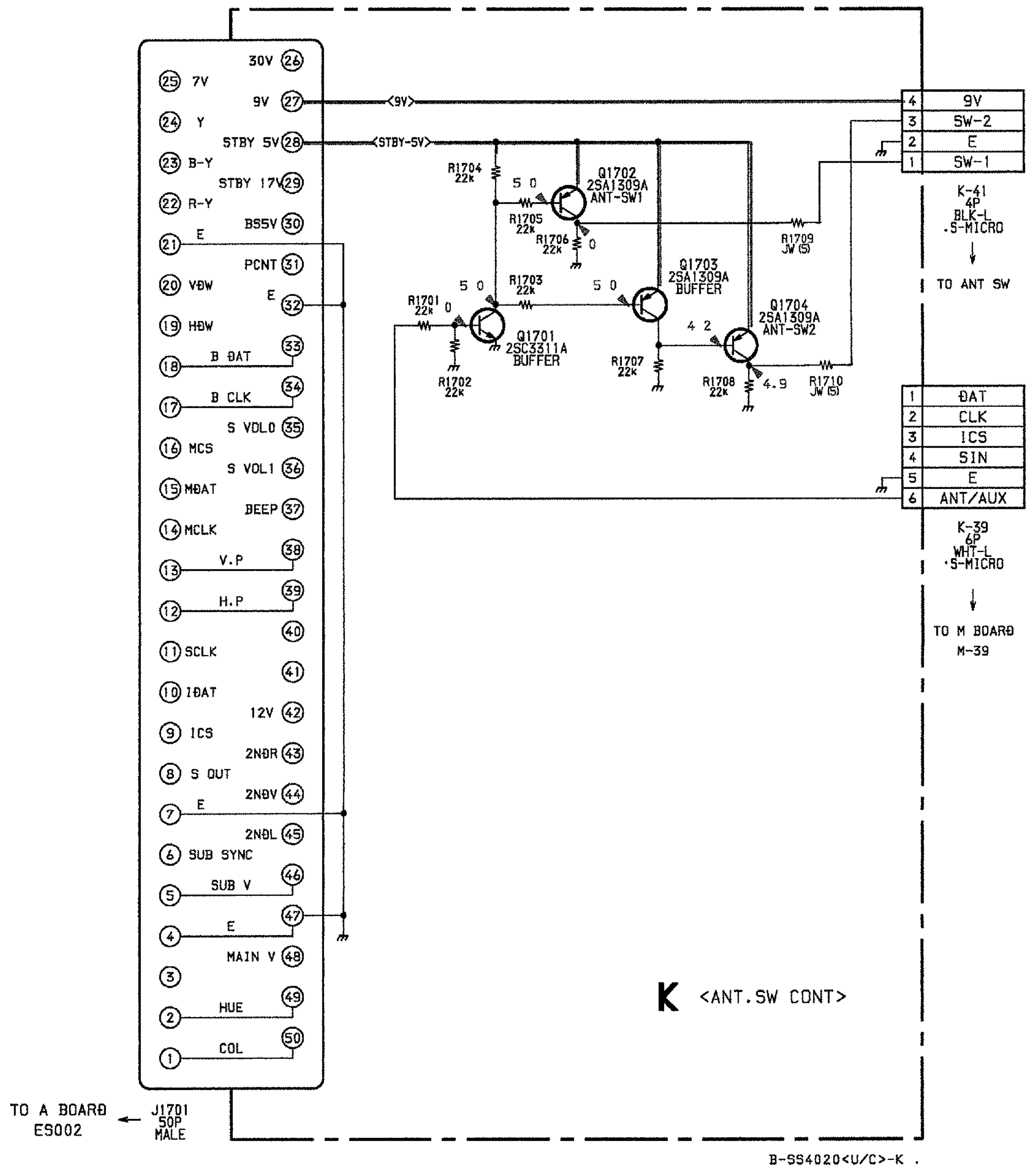
A B C D E F G H I J K L M N O P



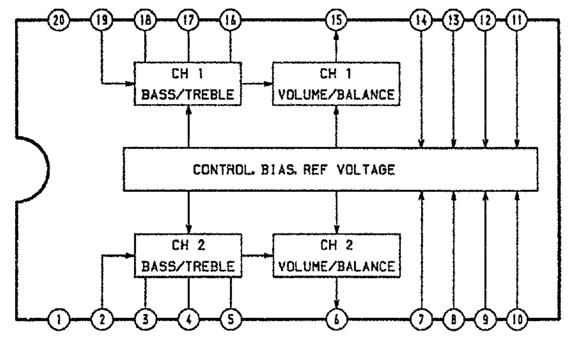
— VC Board —

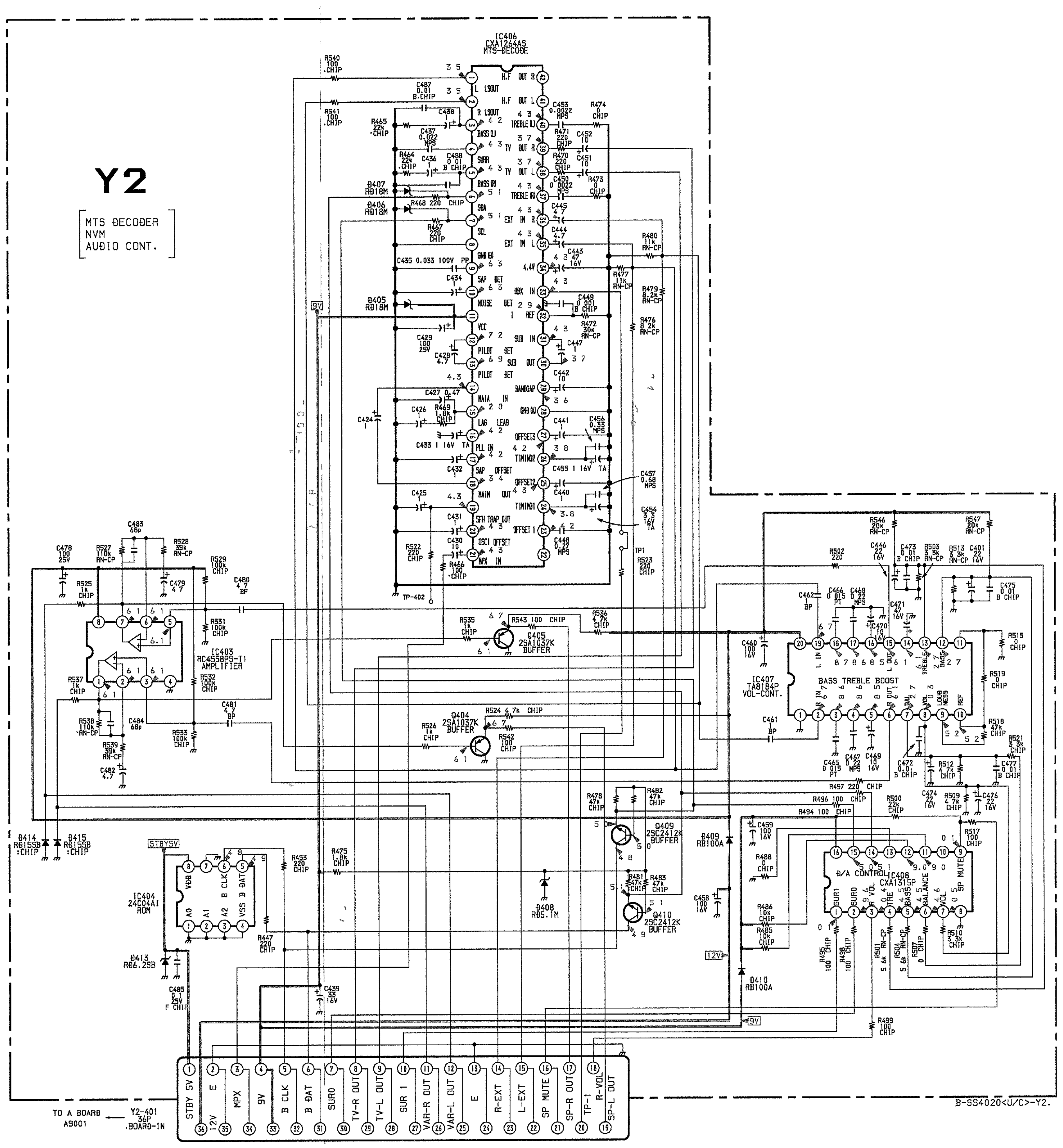






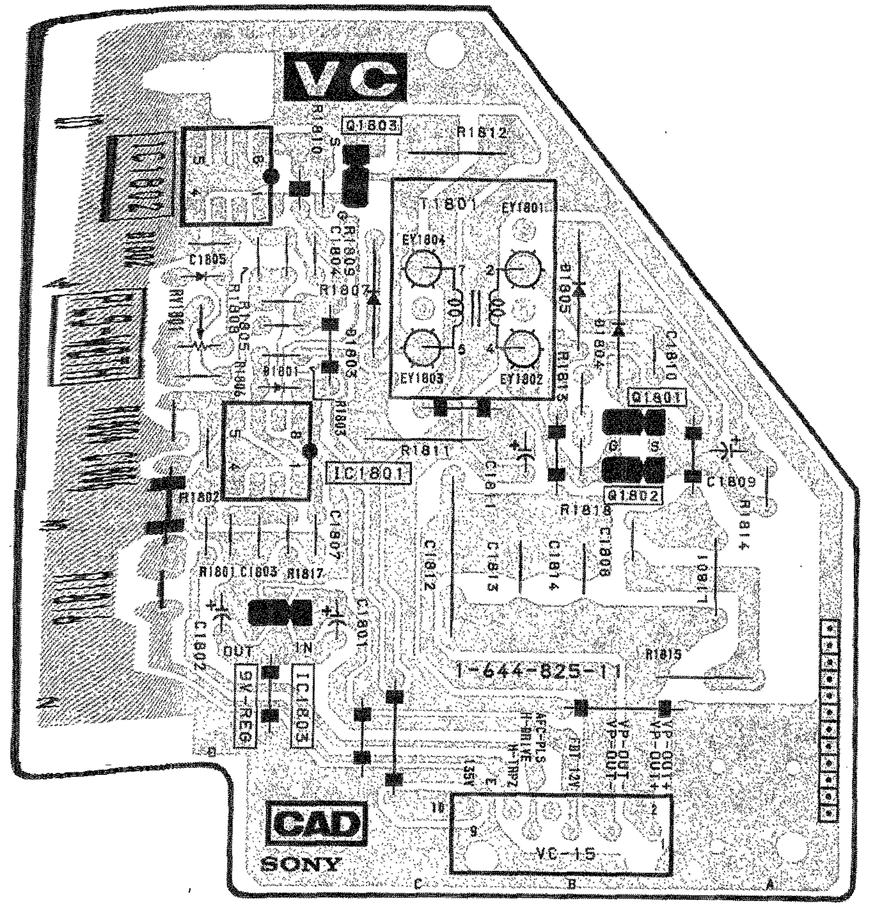
Y2 BOARD IC407 TA8184P



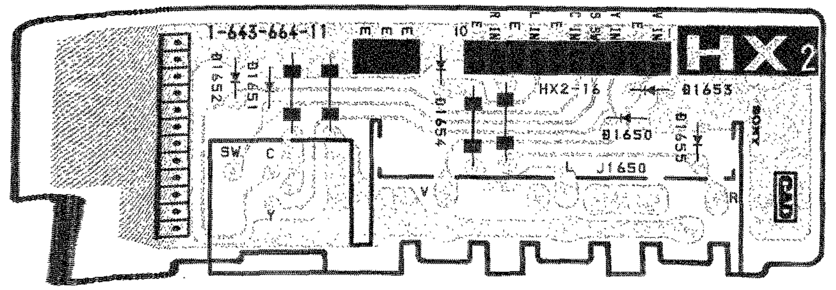


VC [V.PIN CORR.] **HX2** [VIDEO-3 FRONT TERMINAL]

— **VC Board** —

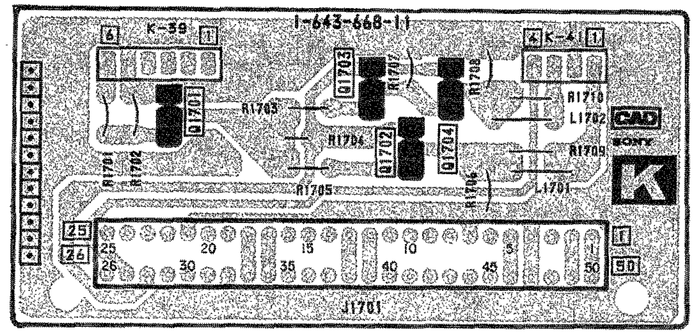


— **HX2 Board** —



K [ANT. SW CONT]

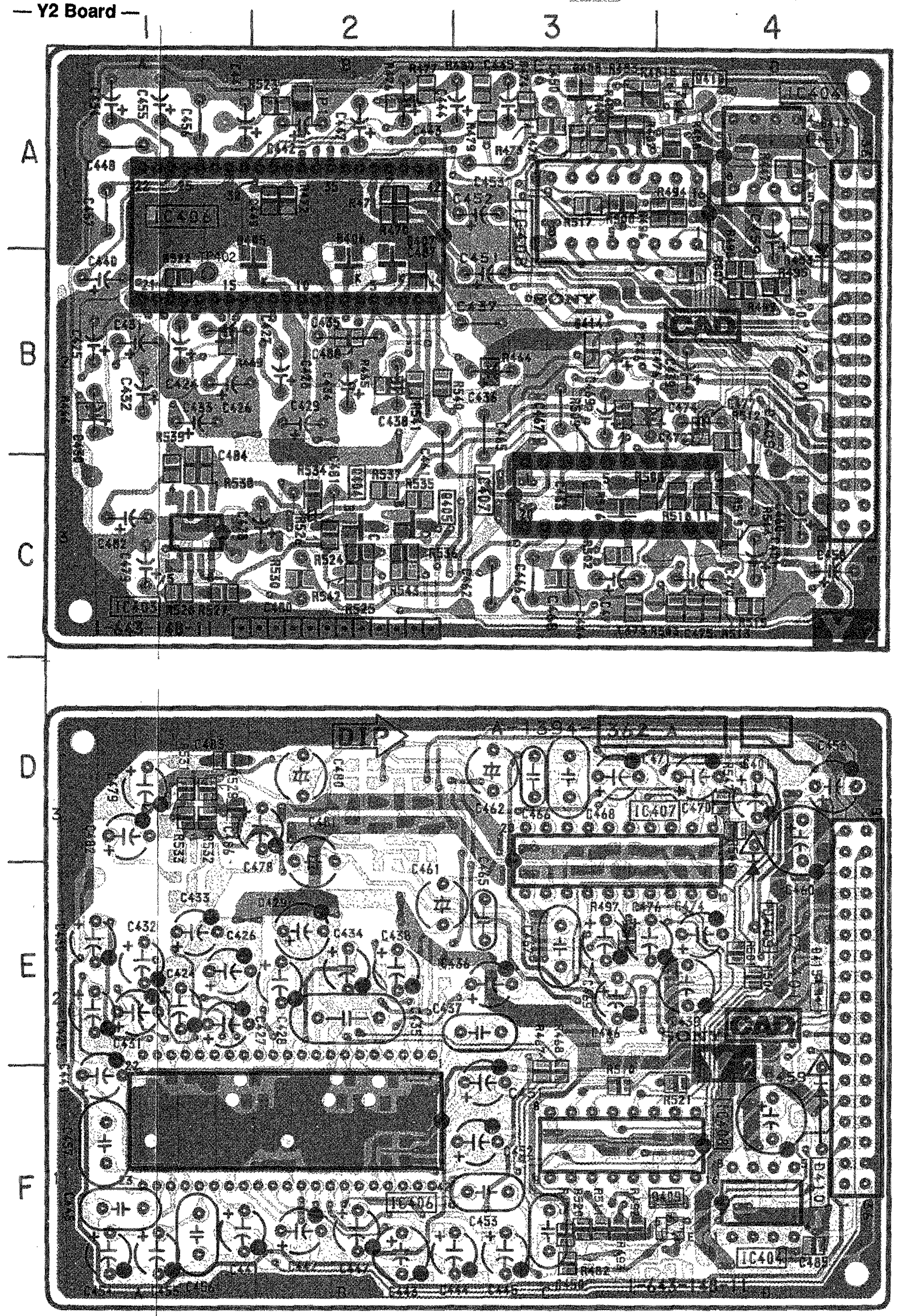
— **K Board** —



Y2 [MTS DECORDER, NVM, AUDIO CONT.]

- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

— **Y2 Board** —

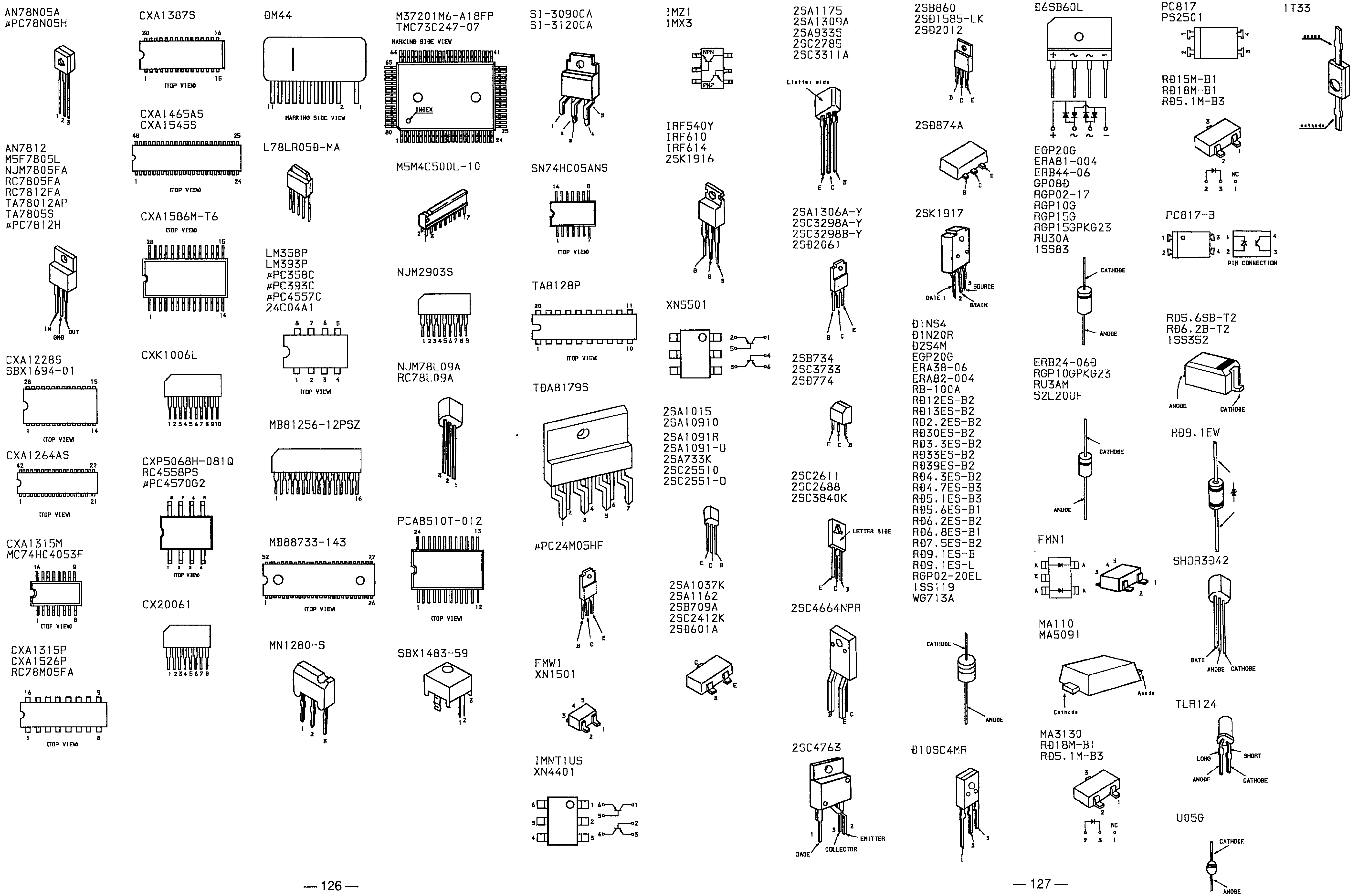


— **Y2 Board** —

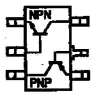
IC	
IC403	C-1
404	A-4
406	A-2
407	C-3
408	A-3
TRANSISTOR	
Q404	C-2
405	C-2
409	F-4
410	A-4
DIODE	
D405	B-2
406	B-2
407	B-2
408	A-3
409	C-4
410	A-4
413	A-4
414	B-3
415	E-4
TEST POINT	
TP1	A-2

KV-32XBR90S
RM-AV1100

6-7. SEMICONDUCTORS

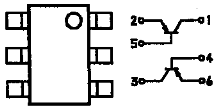


IMZ1
IMX3



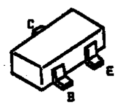
IRF540Y
IRF610
IRF614
2SK1916

XN5501

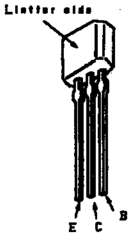


2SA1015
2SA1091O
2SA1091R
2SA1091-O
2SA733K
2SC2551O
2SC2551-O

2SA1037K
2SA1162
2SB709A
2SC2412K
2SD601A

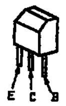


2SA1175
2SA1309A
2SA933S
2SC2785
2SC3311A



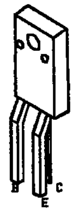
2SA1306A-Y
2SC3298A-Y
2SC3298B-Y
2SD2061

2SB734
2SC3733
2SD774

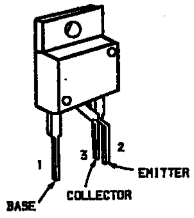


2SC2611
2SC2688
2SC3840K

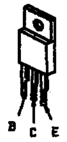
2SC4664NPR



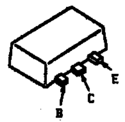
2SC4763



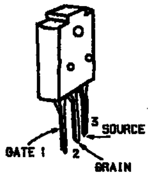
2SB860
2SD1585-LK
2SD2012



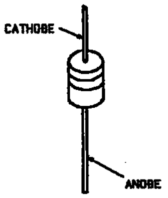
2SD874A



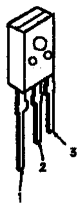
2SK1917



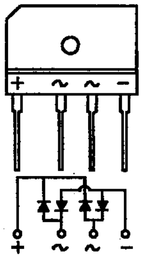
D1NS4
D1N20R
D2S4M
EGP20G
ERA38-06
ERA82-004
RB-100A
RD12ES-B2
RD13ES-B2
RD2.2ES-B2
RD30ES-B2
RD3.3ES-B2
RD33ES-B2
RD39ES-B2
RD4.3ES-B2
RD4.7ES-B3
RD5.1ES-B3
RD5.6ES-B1
RD6.2ES-B2
RD6.8ES-B1
RD7.5ES-B2
RD9.1ES-B
RD9.1ES-L
RGP02-20EL
1SS119
WG713A



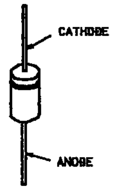
D10SC4MR



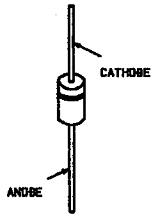
D6SB60L



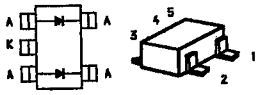
EGP20G
ERA81-004
ERB44-06
GP08D
RGP02-17
RGP10G
RGP15G
RGP15GPKG23
RU30A
1SS83



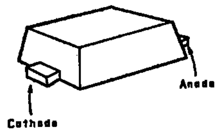
ERB24-06D
RGP10GPKG23
RU3AM
S2L20UF



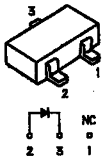
FMN1



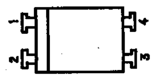
MA110
MA5091



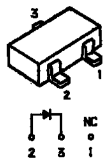
MA3130
RD18M-B1
RD5.1M-B3



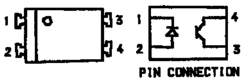
PC817
PS2501



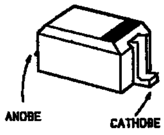
RD15M-B1
RD18M-B1
RD5.1M-B3



PC817-B

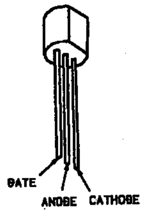


RD5.6SB-T2
RD6.2B-T2
1SS352

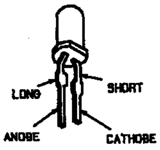


RD9.1EW

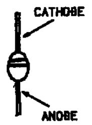
SHOR3D42



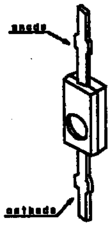
TLR124



U05G



1T33



SECTION 7
EXPLODED VIEWS

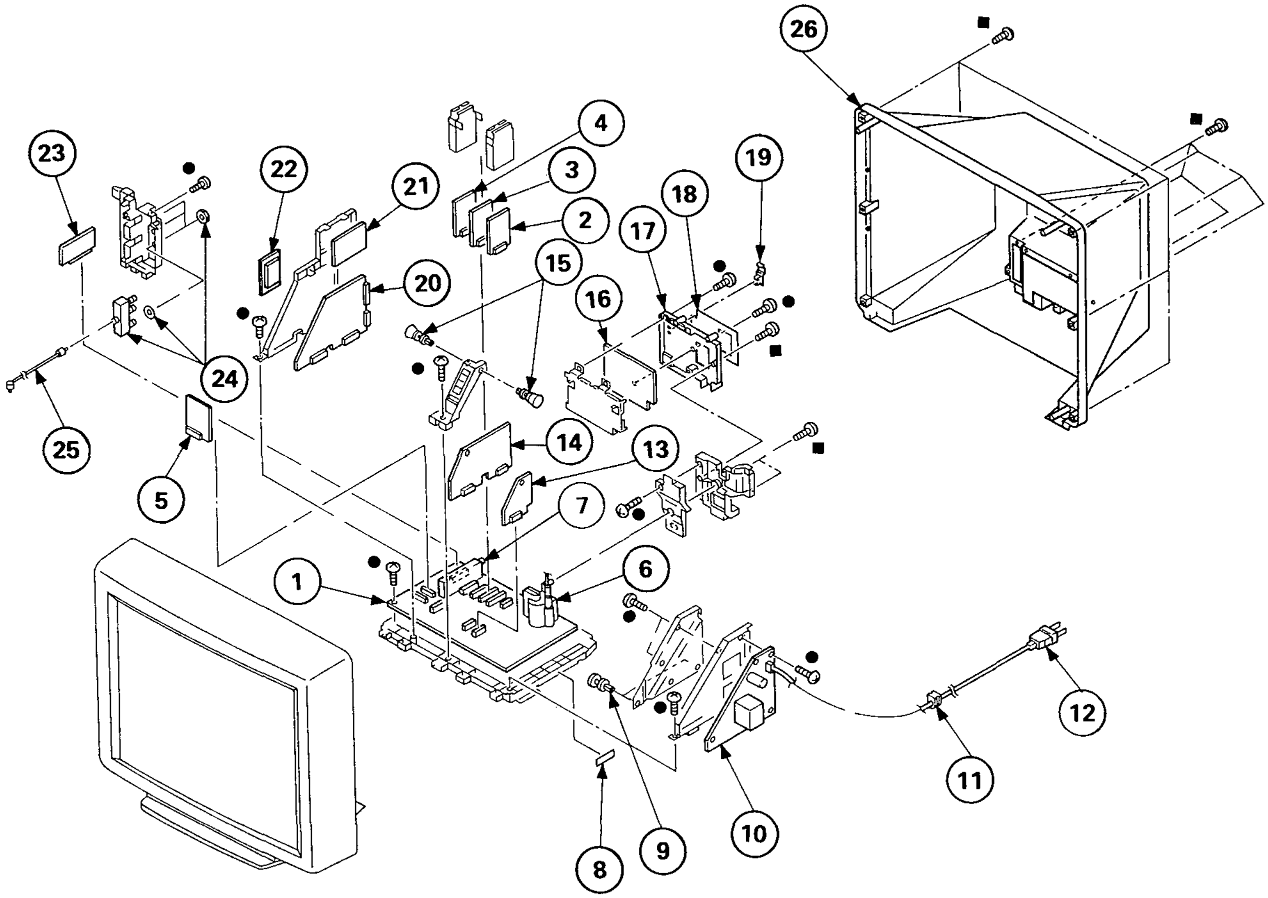
NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service
- The construction parts of an assembled part are indicated with a collation number in the remark column
- Items marked "*" are not stocked since they are seldom required for routine service Some delay should be anticipated when ordering these items

The components identified by shading and mark ⚠ are critical for safety
Replace only with part number specified

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite
Ne les remplacer que par une piece portant le numero specifie

7-1. CHASSIS

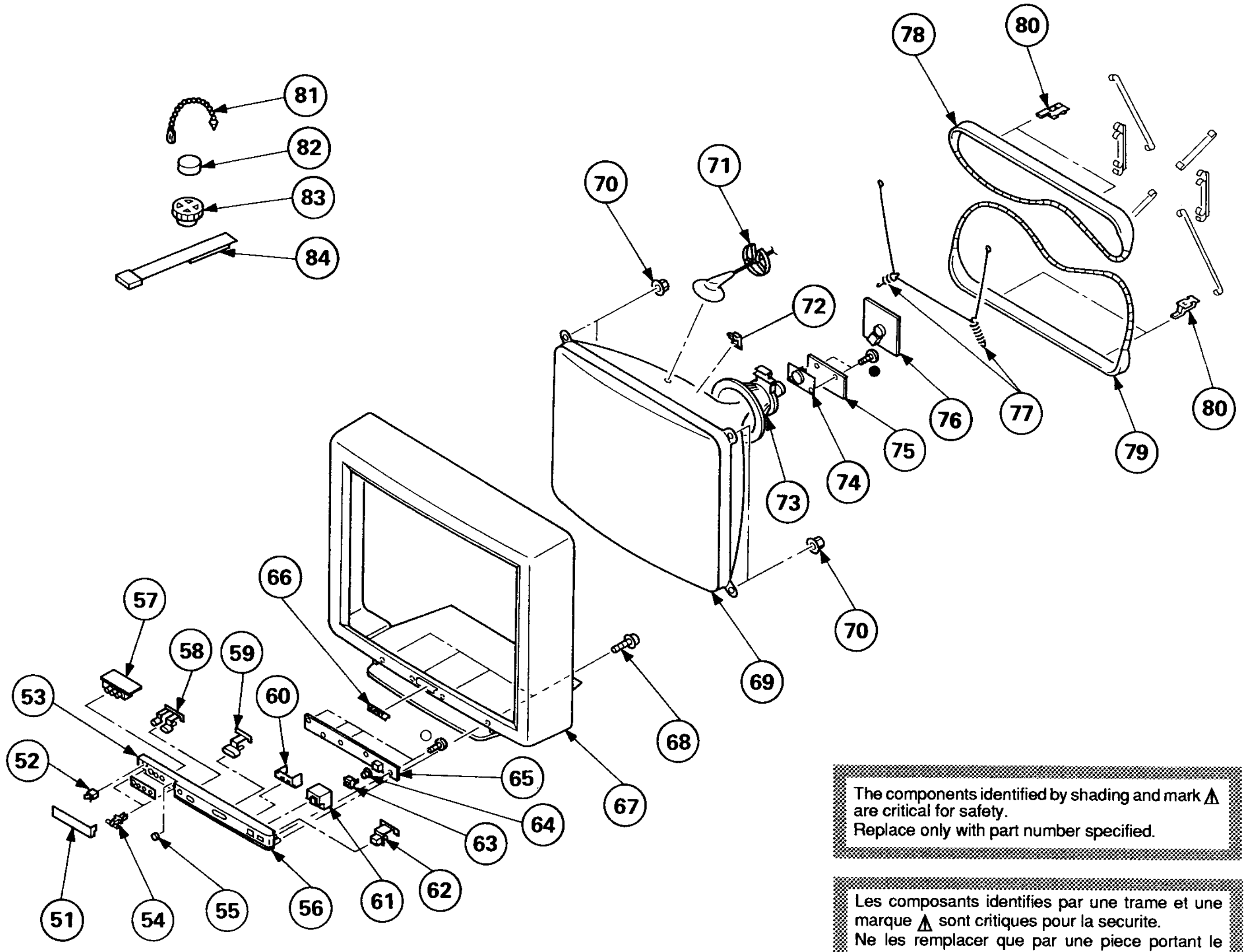
● : BVTP3x12 7-685-648-79
■: BVTP4x16 7-685-663-79



REF.NO.	PART NO.	DESCRIPTION	REMARK
1	*A-1296-948-A	A BOARD, COMPLETE	2~5
2	*A-1346-059-A	E1 BOARD, COMPLETE	
3	*A-1346-060-A	E2 BOARD, COMPLETE	
4	*A-1306-417-A	M BOARD, COMPLETE	
5	*A-1394-366-A	Y2 BOARD, COMPLETE	
6	⚠ 1-453-126-11	TRANSFORMER ASSY, FLYBACK (NX-3000A3)	
7	⚠ 1-693-102-11	TUNER (BTF-XA401)	
8	*3-703-044-26	LABEL, CAUTION	
9	4-374-303-01	RIVET, NYLON	
10	*A-1316-143-A	G BOARD, COMPLETE	
11	⚠ 4-334-223-03	GROMMET, AC CORD	
12	⚠ 1-696-002-12	CORD, POWER (WITH NOISE FILTER)	
13	*A-1347-067-A	VC BOARD, COMPLETE	
14	*A-1341-550-A	D BOARD, COMPLETE	
15	*4-397-418-01	RIVET, T TYPE	
16	*A-1373-330-A	UT BOARD. COMPLETE	
17	4-035-204-21	BRACKET, UT	
18	4-035-982-21	LABEL, UT	
19	4-329-127-00	CLAMP, CORD	
20	*A-1373-326-A	U BOARD, COMPLETE	
21	*1-643-669-11	S BOARD	
22	*A-1195-054-A	P4 BOARD, COMPLETE	
23	*1-643-668-11	K BOARD	
24	⚠ 1-417-177-11	SELECTOR, ANTENNA (AS-1)	
25	*1-555-400-00	CABLE, PIN	
26	4-035-007-01	COVER, REAR	

7-2. PICTURE TUBE

● : BVTP3x12 7-685-648-79
○ : BVTP4x16 7-685-650-79



The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

REF.NO.	PART NO.	DESCRIPTION	REMARK
51	4-035-199-11	DOOR, FRONT PANEL	
52	4-392-036-01	CATCHER, PUSH	
53	4-036-727-01	LABEL, JACK	
54	3-703-035-11	SHAFT, LID	
55	4-314-871-00	CUSHION	
56	4-035-057-11	PANEL, FRONT	
57	*1-643-664-11	HX2 BOARD	
58	4-035-179-01	BUTTON (A), MULTI	
59	4-035-154-01	BUTTON (B), MULTI	
60	4-035-120-01	GUIDE, LIGHT, LED	
61	4-035-119-01	FILTER (REMOTE CONTROL)	
62	4-035-153-01	BUTTON, POWER	
63	*4-381-686-01	BRACKET (B), LIGHT GUIDE	
64	*4-388-603-01	GUIDE, LIGHT	
65	*1-643-663-11	HX1 BOARD	
66	3-704-179-01	EMBLEM (NO.9), SONY	
67	4-035-034-01	CABINET (WITH BEZEL)	
68	4-319-520-11	SCREW, SPECIAL (+PW4X30)	
69	⚠ 8-733-731-05	PICTURE TUBE (M81KVA10X)	
70	4-387-204-01	NUT, SPECIAL, PICTURE TUBE	
71	*3-704-372-01	HOLDER, HV CABLE	
72	3-704-495-01	SPACER, DY	
73	⚠ 1-451-393-11	DEFLECTION YOKE (Y34EXA)	
74	⚠ 1-452-616-12	NECK ASSY, PICTURE TUBE (NA323)	
75	*A-1342-182-A	V BOARD, COMPLETE	
76	*A-1331-209-A	C BOARD, COMPLETE	
77	4-036-329-01	SPRING (B), TENSION	
78	⚠ 1-426-575-11	COIL, DEGAUSSING	
79	⚠ 1-426-576-11	COIL, DEGAUSSING	
80	4-033-744-01	CLIP	
81	4-308-870-00	CLIP, LEAD WIRE	
82	1-452-032-00	MAGNET, DISK: 10MM φ	
83	1-452-094-00	MAGNET, ROTATABLE DISK: 15MM φ	
84	X-4306-312-0	PERMALLOY ASSY, CONVERGENCE	

P4

SECTION 8
ELECTRICAL PARTS LIST

NOTE:

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

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Ne les remplacer que par une piece portant le numero specifie.

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F: nonflammable

When indicating parts by reference number, please include the board name.

CAPACITORS
- MF: μF, PF: μμF

COILS
- MMH: mH, UH: μH

- The components identified by ▣ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
Should replacement be required, replace only with the value originally used.

REF.NO.	PART NO.	DESCRIPTION				REMARK
	*A-1195-054-A	P4 BOARD, COMPLETE				
		******************				
		<CAPACITOR>				
C1201	1-124-261-00	ELECT	10MF	20%	50V	
C1202	1-163-111-00	CERAMIC CHIP	56PF	5%	50V	
C1203	1-126-177-11	ELECT	100MF	20%	6.3V	
C1204	1-124-261-00	ELECT	10MF	20%	50V	
C1205	1-163-113-00	CERAMIC CHIP	68PF	5%	50V	
C1207	1-163-105-00	CERAMIC CHIP	33PF	5%	50V	
C1208	1-124-589-11	ELECT	47MF	20%	16V	
C1209	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1210	1-124-589-11	ELECT	47MF	20%	16V	
C1211	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1212	1-124-589-11	ELECT	47MF	20%	16V	
C1213	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1214	1-124-589-11	ELECT	47MF	20%	16V	
C1215	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1216	1-163-123-00	CERAMIC CHIP	180PF	5%	50V	
C1218	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1219	1-124-589-11	ELECT	47MF	20%	16V	
C1223	1-124-589-11	ELECT	47MF	20%	16V	
C1224	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1226	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C1227	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1228	1-124-589-11	ELECT	47MF	20%	16V	
C1230	1-130-483-00	MYLAR	0.01MF	5%	50V	
C1231	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C1232	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
C1233	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V	
C1234	1-124-257-00	ELECT	2.2MF	20%	50V	
C1236	1-163-093-00	CERAMIC CHIP	10PF	5%	50V	
C1237	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
C1238	1-124-465-00	ELECT	0.47MF	20%	50V	
C1239	1-163-235-11	CERAMIC CHIP	22PF	5%	50V	
C1242	1-124-589-11	ELECT	47MF	20%	16V	
C1243	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1244	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1245	1-124-589-11	ELECT	47MF	20%	16V	
C1246	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C1247	1-124-589-11	ELECT	47MF	20%	16V	
C1249	1-124-261-00	ELECT	10MF	20%	50V	
C1250	1-130-483-00	MYLAR	0.01MF	5%	50V	
		<FILTER>				
FL1201	1-236-620-11	FILTER, LOW PASS				
FL1202	1-236-620-11	FILTER, LOW PASS				
FL1203	1-236-620-11	FILTER, LOW PASS				

REF.NO.	PART NO.	DESCRIPTION				REMARK
		<IC>				
IC1201	8-759-112-06	IC UPC78N05H				
IC1202	8-752-055-90	IC CXA1586M				
IC1203	8-759-112-06	IC UPC78N05H				
IC1204	8-741-694-01	IC SBX1694-01				
		<COIL>				
L1201	1-414-042-21	INDUCTOR	18UH			
L1202	1-414-042-21	INDUCTOR	18UH			
L1203	1-414-042-21	INDUCTOR	18UH			
L1204	1-410-484-11	INDUCTOR	150UH			
L1205	1-414-042-21	INDUCTOR	18UH			
L1206	1-414-042-21	INDUCTOR	18UH			
		<CONNECTOR>				
P432	*1-564-522-11	PLUG, CONNECTOR 7P				
		<TRANSISTOR>				
Q1201	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q1202	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q1203	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q1204	8-729-216-22	TRANSISTOR 2SA1162-G				
Q1205	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q1206	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q1207	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q1208	8-729-216-22	TRANSISTOR 2SA1162-G				
Q1209	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q1210	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q1211	8-729-216-22	TRANSISTOR 2SA1162-G				
Q1217	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q1218	8-729-216-22	TRANSISTOR 2SA1162-G				
Q1223	8-729-216-22	TRANSISTOR 2SA1162-G				
		<RESISTOR>				
R1201	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R1202	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1203	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1204	1-216-689-11	METAL GLAZE	39K	5%	1/10W	
R1205	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1206	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R1207	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R1208	1-216-637-11	METAL CHIP	270	0.50%	1/10W	
R1209	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R1210	1-216-689-11	METAL GLAZE	39K	5%	1/10W	
R1211	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1212	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R1213	1-216-043-00	METAL GLAZE	560	5%	1/10W	

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REF.NO.	PART NO.	DESCRIPTION				REMARK
R1214	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1215	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1216	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R1217	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1218	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1219	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R1220	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R1221	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R1222	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R1223	1-216-639-11	METAL CHIP	330	0.50%	1/10W	
R1224	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R1225	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R1228	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R1229	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1230	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1231	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1232	1-215-857-11	METAL OXIDE	10	5%	1W	F
R1233	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R1234	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R1235	1-215-859-00	METAL OXIDE	22	5%	1W	F
R1236	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1247	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1248	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R1249	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R1250	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1251	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1253	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1254	1-216-639-11	METAL CHIP	330	0.50%	1/10W	
R1255	1-216-620-11	METAL CHIP	51	0.50%	1/10W	
R1256	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1257	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1259	1-216-644-11	METAL CHIP	510	0.50%	1/10W	
R1260	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R1261	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1262	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1263	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1264	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1265	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1266	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R1267	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1268	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R1269	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1270	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R1271	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1272	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R1273	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1274	1-216-630-11	METAL CHIP	130	0.50%	1/10W	
R1275	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R1281	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1284	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1286	1-216-001-00	METAL GLAZE	10	5%	1/10W	

<CRYSTAL>

REF.NO.	PART NO.	DESCRIPTION
X1201	1-577-611-11	OSCILALTOR, CERAMIC
X1202	1-567-878-11	VIBRATOR, CRYSTAL

****

*A-1296-948-A A BOARD, COMPLETE
****

*4-341-751-01 EYELET (EY101~EY172)
*4-341-752-01 EYELET (EY2~EY55)
4-382-854-11 SCREW (M3X10), P, SW (+)

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
A2	*1-573-964-11	PIN, CONNECTOR (PC BOARD) 6P	
A3	*1-573-986-11	PIN, CONNECTOR (PC BOARD) 5P	
A4	*1-564-510-11	PLUG, CONNECTOR 7P	
A5	*1-564-507-11	PLUG, CONNECTOR 4P	
A12	1-573-297-11	CONNECTOR, BOARD TO BOARD 18P	
A13	1-573-297-11	CONNECTOR, BOARD TO BOARD 18P	
A14	1-573-296-11	CONNECTOR, BOARD TO BOARD 10P	
A15	1-573-296-11	CONNECTOR, BOARD TO BOARD 10P	
A18	1-573-296-11	CONNECTOR, BOARD TO BOARD 10P	
A21	*1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P	
A37	*1-564-514-11	PLUG, CONNECTOR 11P	
A49	*1-564-506-11	PLUG, CONNECTOR 3P	
A100	*1-573-979-11	CONNECTOR, BOARD TO BOARD 11P	
DY1	*1-580-798-11	CONNECTOR PIN (DY) 6P	
ES002	*1-573-960-11	CONNECTOR (FEMALE) 50P	

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C201	1-126-101-11	ELECT	100MF	20%	16V	
C210	1-102-121-00	CERAMIC	0.0022MF	10%	50V	
C211	1-101-006-00	CERAMIC	0.047MF		50V	
C213	1-126-103-11	ELECT	470MF	20%	16V	
C214	1-126-101-11	ELECT	100MF	20%	16V	
C215	1-124-910-11	ELECT	47MF	20%	50V	
C216	1-126-101-11	ELECT	100MF	20%	16V	
C217	1-124-126-00	ELECT	47MF	20%	25V	
C218	1-126-103-11	ELECT	470MF	20%	16V	
C219	1-136-169-00	FILM	0.22MF	5%	50V	
C220	1-124-910-11	ELECT	47MF	20%	50V	
C223	1-123-875-11	ELECT	10MF	20%	50V	
C224	1-124-261-00	ELECT	10MF	20%	50V	
C225	1-124-120-11	ELECT	220MF	20%	16V	
C226	1-124-621-11	ELECT	3300MF	20%	6.3V	
C299	1-126-101-11	ELECT	100MF	20%	16V	
C501	1-137-114-11	FILM	0.68MF	5%	200V	
C502	1-130-471-00	FILM	0.001MF	5%	50V	
C503	1-124-261-00	ELECT	10MF	20%	50V	
C504	1-136-161-00	FILM	0.047MF	5%	50V	
C505	1-124-790-11	ELECT	0.47MF	20%	100V	
C506	1-124-480-11	ELECT	470MF	20%	25V	
C507	1-130-473-00	MYLAR	0.0015MF	5%	50V	
C508	1-162-114-00	CERAMIC	0.0047MF		2KV	
C509	1-124-808-51	ELECT	10MF	20%	200V	
C510	1-102-110-00	CERAMIC	220PF	10%	50V	
C511	1-124-477-11	ELECT	47MF	20%	25V	
C512	1-162-318-11	CERAMIC	0.001MF	10%	500V	
C513	1-106-391-12	MYLAR	0.1MF	10%	200V	
C514	1-124-477-11	ELECT	47MF	20%	25V	
C515	1-162-117-00	CERAMIC	100PF	10%	500V	
C517	1-124-477-11	ELECT	47MF	20%	25V	
C518	1-136-161-00	FILM	0.047MF	5%	50V	
C519	1-124-472-11	ELECT	470MF	20%	10V	
C520 ⚠	1-161-731-51	CERAMIC	0.001MF	10%	2KV	
C521 ⚠	1-137-604-21	FILM	0.022MF	2%	200V	
C522	1-162-116-00	CERAMIC	680PF	10%	2KV	
C523	1-124-465-00	ELECT	0.47MF	20%	50V	
C524	1-130-487-00	MYLAR	0.022MF	5%	50V	
C525	1-162-116-00	CERAMIC	680PF	10%	2KV	
C526 ⚠	1-137-515-91	FILM	0.056MF	3%	400V	
C527	1-136-167-00	FILM	0.15MF	5%	50V	
C528	1-106-359-00	MYLAR	0.0047MF	10%	200V	

A

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.	The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION			REMARK
C529	1-136-161-00	FILM	0.047MF	5%	50V
C530	1-136-105-00	FILM	0.33MF	5%	200V
C531	1-124-634-11	ELECT	1MF	20%	250V
C532	1-124-477-11	ELECT	47MF	20%	25V
C533	1-137-516-11	FILM	1.2MF	5%	200V
C534	1-137-114-11	FILM	0.68MF	5%	200V
C535	1-124-480-11	ELECT	470MF	20%	25V
C536	1-102-228-00	CERAMIC	470PF	10%	500V
C537	1-106-343-00	MYLAR	0.001MF	10%	100V
C538	1-106-391-12	MYLAR	0.1MF	10%	200V
C539	1-123-950-00	ELECT	47MF	20%	250V
C540	1-124-480-11	ELECT	470MF	20%	25V
C541	1-102-228-00	CERAMIC	470PF	10%	500V
C542	1-106-387-00	MYLAR	0.068MF	10%	200V
C543	1-129-898-00	FILM	0.0022MF	5%	630V
C544	1-124-797-11	ELECT	0.47MF	20%	160V
C545	1-102-244-00	CERAMIC	220PF	10%	500V
C546	1-123-024-21	ELECT	33MF		160V
C547	1-130-471-00	MYLAR	0.001MF	5%	50V
C548	1-130-467-00	MYLAR	470PF	5%	50V
C549	1-124-261-00	ELECT	10MF	20%	50V
C550	1-129-702-00	FILM	0.001MF	10%	630V
C551	1-130-471-00	MYLAR	0.001MF	5%	50V
C552	1-126-176-11	ELECT	220MF	20%	10V
C553	1-124-261-00	ELECT	10MF	20%	50V
C554 ⚠	1-161-731-51	CERAMIC	0.001MF	10%	2KV
C555	1-123-947-00	ELECT	10MF	20%	250V
C557	1-124-465-00	ELECT	0.47MF	20%	50V
C559	1-129-718-00	FILM	0.022MF	5%	630V
C560	1-136-169-00	FILM	0.22MF	5%	50V
C561	1-124-261-00	ELECT	10MF	20%	50V
C562	1-124-499-11	ELECT	1MF	20%	50V
C563	1-130-491-00	MYLAR	0.047MF	5%	50V
C564	1-130-495-00	MYLAR	0.1MF	5%	50V
C565	1-130-495-00	MYLAR	0.1MF	5%	50V
C569	1-130-497-00	MYLAR	0.15MF	5%	50V
C570	1-130-471-00	MYLAR	0.001MF	5%	50V
C571	1-130-651-00	FILM	0.001MF	2%	100V
C572	1-124-907-11	ELECT	10MF	20%	50V
C573	1-130-471-00	MYLAR	0.001MF	5%	50V
C575	1-102-038-00	CERAMIC	0.001MF		500V
C576	1-106-355-12	MYLAR	0.0033MF		200V
C1501	1-126-233-11	ELECT	22MF	20%	50V
C1502	1-126-301-11	ELECT	1MF	20%	50V
C1503	1-102-114-00	CERAMIC	470PF	10%	50V
C1504	1-124-480-11	ELECT	470MF	20%	25V
C1505	1-124-911-11	ELECT	220MF	20%	50V
C1506	1-136-171-00	FILM	0.33MF	5%	50V
C1507	1-106-222-00	MYLAR	0.12MF	10%	100V
C1508	1-124-480-11	ELECT	470MF	20%	25V
C1509	1-124-122-11	ELECT	100MF	20%	50V
C1511	1-164-014-11	CERAMIC	5PF	0.25PF	50V
		<DIODE>			
D201	8-719-110-13	DIODE RD9.1ES-B2			
D202	8-719-110-13	DIODE RD9.1ES-B2			
D204	8-719-911-19	DIODE 1SS119			
D205	8-719-911-19	DIODE 1SS119			
D206	8-719-911-19	DIODE 1SS119			
D207	8-719-911-19	DIODE 1SS119			
D208	8-719-911-19	DIODE 1SS119			
D209	8-719-510-48	DIODE D1N20R			
D213	8-719-110-78	DIODE RD33ES-B2			

REF.NO.	PART NO.	DESCRIPTION	REMARK
D501	8-719-018-82	DIODE RGP02-20EL-6394	
D502 ⚠	8-719-302-43	DIODE EL1Z	
D503	8-719-970-87	DIODE ERA38-06	
D504	8-719-911-19	DIODE 1SS119	
D506	8-719-109-90	DIODE RD5.6ES-B3	
D508	8-719-109-88	DIODE RD5.6E3S-B1	
D509	8-719-110-03	DIODE RD7.5ES-B2	
D510	8-719-911-19	DIODE 1SS119	
D511	8-719-300-33	DIODE RU-3AM	
D512	8-719-911-55	DIODE U05G	
D513	8-719-911-55	DIODE U05G	
D514	8-719-312-72	DIODE RU30A	
D515	8-719-300-33	DIODE RU-3AM	
D516	8-719-979-85	DIODE EGP20G	
D517	8-719-943-06	DIODE ERB24-06D	
D518	8-719-109-93	DIODE RD6.2ES-B2	
D521	8-719-911-19	DIODE 1SS119	
D522	8-719-110-72	DIODE RD30ES-B2	
D524	8-719-976-64	DIODE RGP02-17	
D525	8-719-911-19	DIODE 1SS119	
D527	8-719-110-78	DIODE RD33ES-B2	
D529	8-719-911-19	DIODE 1SS119	
D530	8-719-911-19	DIODE 1SS119	
D1408	8-719-911-19	DIODE 1SS119	
D1412	8-719-911-19	DIODE 1SS119	
D1413	8-719-911-19	DIODE 1SS119	
D1414	8-719-911-19	DIODE 1SS119	
D1503	8-719-911-55	DIODE U05G	
		<IC>	
IC201	8-749-920-58	IC SI-3090CA	
IC204	8-759-231-53	IC TA7805S	
IC205	8-759-144-84	IC UPC24M05HF	
IC206	8-759-982-13	IC RC7812FA	
IC501	8-759-987-16	IC LM393P	
IC502	1-809-845-11	MODULE, PROTECTOR PM-30	
IC503	8-759-987-16	IC LM393P	
IC504	8-759-982-13	IC RC7812FA	
IC1501	8-759-506-46	IC TDA8179S	
		<JACK>	
J201	1-507-562-00	JACK	
J202	1-507-562-00	JACK	
		<COIL>	
L201	1-408-408-00	INDUCTOR 8.2UH	
L205	1-408-421-00	INDUCTOR 100UH	
L208	1-410-785-31	INDUCTOR 0.22UH	
L210	1-408-408-00	INDUCTOR 8.2UH	
L501	1-459-104-00	COIL, WITH CORE	
L502	1-412-552-31	INDUCTOR 2.2MMH	
L504	1-410-455-11	INDUCTOR 10MMH	
L507	1-459-483-00	COIL (WITH CORE)	
L508	1-421-541-00	COIL, CHOKE 1000UH	
L509	1-459-104-00	COIL, WITH CORE	
L510 ⚠	1-460-197-11	COIL, FERRITE (PMC)	
L511	1-412-519-11	INDUCTOR 3.3UH	
L512	1-412-531-31	INDUCTOR 33UH	
L513	1-412-519-11	INDUCTOR 3.3UH	
L514	1-459-123-00	COIL,DUST CORE(PAC)	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

- The components identified by ▣ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
  Should replacement be required, replace only with the value originally used.

REF.NO.	PART NO.	DESCRIPTION				REMARK
L515	1-410-645-31	INDUCTOR	100UH			
L520	1-412-531-31	INDUCTOR	33UH			
L1501	1-412-531-31	INDUCTOR	33UH			
L1503	1-412-531-31	INDUCTOR	33UH			
		<TRANSISTOR>				
Q201	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q202	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q501	8-729-011-07	TRANSISTOR	2SC4763(LBSONY)			
Q502	8-729-140-97	TRANSISTOR	2SB734-34			
Q503	8-729-011-06	TRANSISTOR	2SC3840K			
Q504	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q505	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q506	8-729-011-00	TRANSISTOR	2SK1916-53F87			
Q507	8-729-119-80	TRANSISTOR	2SC2688-LK			
Q508	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q509	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q510	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q511	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q512	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q513	8-729-140-96	TRANSISTOR	2SD774-34			
Q515	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q516	8-729-119-76	TRANSISTOR	2SA1175-HFE			
Q1501	8-729-119-78	TRANSISTOR	2SC2785-HFE			
Q1502	8-729-119-78	TRANSISTOR	2SC2785-HFE			
		<RESISTOR>				
R201	1-249-405-11	CARBON	100	5%	1/4W	F
R202	1-249-405-11	CARBON	100	5%	1/4W	F
R210	1-249-441-11	CARBON	100K	5%	1/4W	
R211	1-249-425-11	CARBON	4.7K	5%	1/4W	
R214	1-249-377-11	CARBON	0.47	5%	1/4W	F
R219	1-249-426-11	CARBON	5.6K	5%	1/4W	
R221	1-249-409-11	CARBON	220	5%	1/4W	
R222	1-249-434-11	CARBON	27K	5%	1/4W	
R223	1-249-433-11	CARBON	22K	5%	1/4W	
R224	1-249-409-11	CARBON	220	5%	1/4W	
R225	1-249-424-11	CARBON	3.9K	5%	1/4W	
R226	1-249-417-11	CARBON	1K	5%	1/4W	
R230	1-215-923-00	METAL OXIDE	10K	5%	3W	F
R231	1-249-409-11	CARBON	220	5%	1/4W	F
R232	1-216-380-11	METAL OXIDE	8.2	5%	2W	F
R233	1-249-409-11	CARBON	220	5%	1/4W	
R234	1-249-409-11	CARBON	220	5%	1/4W	
R235	1-249-409-11	CARBON	220	5%	1/4W	
R236	1-249-409-11	CARBON	220	5%	1/4W	
R237	1-249-409-11	CARBON	220	5%	1/4W	
R238	1-249-409-11	CARBON	220	5%	1/4W	
R239	1-249-409-11	CARBON	220	5%	1/4W	
R240	1-249-482-11	CARBON	4.7	5%	1/2W	F
R501	1-249-431-11	CARBON	15K	5%	1/4W	
R502	1-249-431-11	CARBON	15K	5%	1/4W	
R504	1-215-869-11	METAL OXIDE	1K	5%	1W	F
R505	1-215-449-00	METAL	15K	1%	1/4W	
R506	1-249-423-11	CARBON	3.3K	5%	1/4W	
R507	1-249-411-11	CARBON	330	5%	1/4W	
R508	1-249-435-11	CARBON	33K	5%	1/4W	
R509	1-249-441-11	CARBON	100K	5%	1/4W	
R510	1-249-409-11	CARBON	220	5%	1/4W	F
R511	1-249-398-11	CARBON	27	5%	1/4W	F
R512	1-249-423-11	CARBON	3.3K	5%	1/4W	
R513	1-249-425-11	CARBON	4.7K	5%	1/4W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R514	1-249-438-11	CARBON	56K	5%	1/4W	
R515	1-249-433-11	CARBON	22K	5%	1/4W	
R516	1-249-419-11	CARBON	1.5K	5%	1/4W	
R517	1-216-361-00	METAL OXIDE	0.22	5%	2W	F
R518	1-249-437-11	CARBON	47K	5%	1/4W	
R519	1-247-755-11	CARBON	1.8K	5%	1/2W	F
R520	1-249-441-11	CARBON	100K	5%	1/4W	
R521	1-216-481-11	METAL OXIDE	1.2K	5%	3W	F
R522	1-215-917-11	METAL OXIDE	1K	5%	3W	F
R523	1-249-425-11	CARBON	4.7K	5%	1/4W	
R524	1-215-445-00	METAL	10K	1%	1/4W	
R526	1-249-401-11	CARBON	47	5%	1/4W	
R527	1-249-417-11	CARBON	1K	5%	1/4W	
R528	1-247-903-00	CARBON	1M	5%	1/4W	
R529	1-249-429-11	CARBON	10K	5%	1/4W	
R530	1-215-457-00	METAL	33K	1%	1/4W	
R531	1-249-432-11	CARBON	18K	5%	1/4W	
R532	1-249-437-11	CARBON	47K	5%	1/4W	
R533	1-247-887-00	CARBON	220K	5%	1/4W	
R534	1-215-472-00	METAL	130K	1%	1/4W	
R536	1-249-429-11	CARBON	10K	5%	1/4W	
R537	1-215-465-00	METAL	68K	1%	1/4W	
R538	1-247-883-00	CARBON	150K	5%	1/4W	
R539	1-249-425-11	CARBON	4.7K	5%	1/4W	
R540	1-249-437-11	CARBON	47K	5%	1/4W	
R541	1-249-397-11	CARBON	22	5%	1/4W	F
R542	1-215-888-00	METAL OXIDE	220	5%	2W	F
R543	1-249-411-11	CARBON	330	5%	1/4W	
R544	1-249-441-11	CARBON	100K	5%	1/4W	
R546	1-215-441-00	METAL	6.8K	1%	1/4W	
R547	1-249-441-11	CARBON	100K	5%	1/4W	
R548	1-215-889-00	METAL OXIDE	330	5%	2W	F
R549	1-215-881-11	METAL OXIDE	15	5%	2W	F
R550	1-215-909-11	METAL OXIDE	47	5%	3W	F
R551	1-247-743-11	CARBON	220	5%	1/2W	F
R552	1-249-389-11	CARBON	4.7	5%	1/4W	F
R553	1-249-377-11	CARBON	0.47	5%	1/4W	F
R554	1-249-377-11	CARBON	0.47	5%	1/4W	F
R556	1-216-459-00	METAL OXIDE	2.7K	5%	2W	F
R558	1-259-882-11	CARBON	3.3M	5%	1/4W	
R559	1-216-439-00	METAL OXIDE	12K	5%	1W	F
R560	1-247-901-11	CARBON	820K	5%	1/4W	
R561	1-249-410-11	CARBON	270	5%	1/4W	
R562	1-215-450-00	METAL	16K	1%	1/4W	
R564	1-215-475-00	METAL	180K	1%	1/4W	
▣R565 ⚠		CARBON			1/4W	
▣R566 ⚠		CARBON			1/4W	
R567	1-249-425-11	CARBON	4.7K	5%	1/4W	
R568	1-249-425-11	CARBON	4.7K	5%	1/4W	
R569	1-249-417-11	CARBON	1K	5%	1/4W	
R570	1-249-402-11	CARBON	56	5%	1/4W	
R572	1-249-393-11	CARBON	10	5%	1/4W	F
R573	1-249-393-11	CARBON	10	5%	1/4W	F
R574	1-215-882-00	METAL OXIDE	22	5%	2W	F
R575	1-216-459-00	METAL OXIDE	2.7K	5%	2W	F
R576	1-249-417-11	CARBON	1K	5%	1/4W	F
R577	1-215-887-00	METAL OXIDE	150	5%	2W	F
R578	1-216-449-11	METAL OXIDE	56	5%	2W	F
R579	1-249-441-11	CARBON	100K	5%	1/4W	
R580	1-249-441-11	CARBON	100K	5%	1/4W	
R583	1-249-441-11	CARBON	100K	5%	1/4W	
R584	1-215-463-00	METAL	56K	1%	1/4W	
R587	1-249-441-11	CARBON	100K	5%	1/4W	
R588	1-249-415-11	CARBON	680	5%	1/4W	

A | **M**

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.	The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK
R589	1-249-437-11	CARBON	47K	5%	1/4W	
R590	1-249-431-11	CARBON	15K	5%	1/4W	
R591	1-247-887-00	CARBON	220K	5%	1/4W	
R592	1-249-429-11	CARBON	10K	5%	1/4W	
R593	1-215-878-00	METAL OXIDE	33K	5%	1W	F
R594	1-247-903-00	CARBON	1M	5%	1/4W	
R595	1-249-440-11	CARBON	82K	5%	1/4W	
R596	1-249-432-11	CARBON	18K	5%	1/4W	
R597	1-249-437-11	CARBON	47K	5%	1/4W	
R599	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1501	1-215-449-00	METAL	15K	1%	1/4W	
R1502	1-215-433-00	METAL	3.3K	1%	1/4W	
R1503	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1505	1-249-433-11	CARBON	22K	5%	1/4W	
R1506	1-218-642-91	METAL OXIDE	100K	5%	1W	F
R1507	1-249-436-11	CARBON	39K	5%	1/4W	
R1508	1-215-453-00	METAL	22K	1%	1/4W	
R1509	1-215-455-00	METAL	27K	1%	1/4W	
R1510	1-249-383-11	CARBON	1.5	5%	1/4W	F
R1511	1-215-888-00	METAL OXIDE	220	5%	2W	F
R1512	1-216-369-00	METAL OXIDE	1	5%	2W	F
R1513	1-249-436-11	CARBON	39K	5%	1/4W	
R4002	1-249-385-11	CARBON	2.2	5%	1/4W	F
R4003	1-216-361-00	METAL OXIDE	0.22	5%	2W	F
R4004	1-216-374-00	METAL OXIDE	2.7	5%	2W	F
R4006	1-216-396-11	METAL OXIDE	3.9	5%	3W	F

<SPARK GAP>

SG501	1-519-422-11	GAP, SPARK

<TRANSFORMER>

T501 ⚠	1-453-126-11	TRANSFORMER ASSY, FLYBACK (NX-3000A3)
T502 ⚠	1-460-199-11	TRANSFORMER (HLT)
T503	1-437-195-11	TRANSFORMER, HORIZONTAL DRIVE
T504	1-424-584-11	TRANSFORMER, DYNAMIC FOCUS

<THERMISTOR>

THP150	1-807-925-11	THERMISTOR

<TUNER>

TU101⚠	1-693-102-11	TUNER (BTF-XA401)

****

*A-1306-417-A M BOARD, COMPLETE
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<CAPACITOR>

C001	1-124-261-00	ELECT	10MF	20%	50V
C002	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C003	1-136-161-00	FILM	0.047MF	5%	50V
C004	1-126-301-11	ELECT	1MF	20%	50V
C005	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C014	1-124-910-11	ELECT	47MF	20%	50V
C015	1-124-464-11	ELECT	0.22MF	20%	50V
C017	1-124-589-11	ELECT	47MF	20%	16V
C018	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C019	1-164-695-11	CERAMIC CHIP	0.0022MF	5%	50V
C020	1-163-241-11	CERAMIC CHIP	39PF	5%	50V
C021	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C029	1-163-115-00	CERAMIC CHIP	82PF	5%	50V
C030	1-163-115-00	CERAMIC CHIP	82PF	5%	50V
C034	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C035	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C036	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C041	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C042	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C045	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C047	1-124-261-00	ELECT	10MF	20%	50V
C048	1-124-261-00	ELECT	10MF	20%	50V
C049	1-124-261-00	ELECT	10MF	20%	50V
C055	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C064	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C065	1-124-257-00	ELECT	2.2MF	20%	50V

<DIODE>

D001	8-719-404-46	DIODE MA110
D002	8-719-404-46	DIODE MA110
D003	8-719-404-46	DIODE MA110
D004	8-719-404-46	DIODE MA110
D005	8-719-404-46	DIODE MA110
D006	8-719-404-46	DIODE MA110
D007	8-719-404-46	DIODE MA110
D008	8-719-404-46	DIODE MA110
D009	8-719-404-46	DIODE MA110
D010	8-713-300-57	DIODE 1T33
D011	8-719-404-46	DIODE MA110
D012	8-719-404-46	DIODE MA110
D015	8-719-404-46	DIODE MA110

<IC>

IC001	8-759-095-47	IC TMC73C247-08
IC002	8-759-403-44	IC MN1280-S

<COIL>

L001	1-408-409-00	INDUCTOR	10UH
L002	1-410-476-11	INDUCTOR	33UH

<CONNECTOR>

M001	*1-573-965-11	PIN, CONNECTOR (PC BOARD) 50P
M39	*1-564-521-11	PLUG, CONNECTOR 6P
M45	*1-564-523-11	PLUG, CONNECTOR 8P

<TRANSISTOR>

Q001	8-729-216-22	TRANSISTOR 2SA1162-G
Q002	8-729-216-22	TRANSISTOR 2SA1162-G
Q003	8-729-216-22	TRANSISTOR 2SA1162-G
Q004	8-729-920-74	TRANSISTOR 2SC2412K-QR
Q005	8-729-920-74	TRANSISTOR 2SC2412K-QR
Q006	8-729-216-22	TRANSISTOR 2SA1162-G
Q007	8-729-216-22	TRANSISTOR 2SA1162-G
Q008	8-729-920-74	TRANSISTOR 2SC2412K-QR
Q009	8-729-920-74	TRANSISTOR 2SC2412K-QR
Q010	8-729-920-74	TRANSISTOR 2SC2412K-QR
Q011	8-729-920-74	TRANSISTOR 2SC2412K-QR
Q012	8-729-920-74	TRANSISTOR 2SC2412K-QR
Q013	8-729-216-22	TRANSISTOR 2SA1162-G
Q014	8-729-920-74	TRANSISTOR 2SC2412K-QR

M **E1**

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R001	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R002	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R003	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R004	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R005	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R006	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R007	1-216-027-00	METAL GLAZE	120	5%	1/10W	
R008	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R009	1-216-027-00	METAL GLAZE	120	5%	1/10W	
R011	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R012	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R013	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R014	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R015	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R016	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R017	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R018	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R019	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R020	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R021	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R022	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R023	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R024	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R025	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R026	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R027	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R028	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R029	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R030	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R031	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R032	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R033	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R034	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R035	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R036	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R037	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R038	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R039	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R040	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R041	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R042	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R043	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R044	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R045	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R046	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R047	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R048	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R049	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R050	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R051	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R052	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R053	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R054	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R055	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R056	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R057	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R058	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R059	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R060	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R063	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R064	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R065	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R066	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R067	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R068	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R069	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R070	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R071	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R072	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R073	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R074	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R075	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R076	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R077	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R078	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R079	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R080	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R081	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R082	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R083	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R084	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R085	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R086	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R087	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R088	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R089	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R090	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R091	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R093	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R094	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R095	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R096	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R097	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R098	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R099	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R100	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R101	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R102	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R103	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R104	1-216-033-00	METAL GLAZE	220	5%	1/10W	

<CRYSTAL>

REF.NO.	PART NO.	DESCRIPTION	REMARK
X001	1-579-743-11	VIBRATOR, CRYSTAL	

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*A-1346-059-A E1 BOARD, COMPLETE
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<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C301	1-163-010-11	CERAMIC CHIP	0.0012MF	10%	50V	
C303	1-126-157-11	ELECT	10MF	20%	16V	
C304	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C305	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C306	1-102-971-00	CERAMIC	82PF	5%	50V	
C309	1-164-505-11	CERAMIC CHIP	2.2MF		16V	
C310	1-163-109-00	CERAMIC CHIP	47PF	5%	50V	
C314	1-124-915-11	ELECT	10MF	20%	16V	
C315	1-164-505-11	CERAMIC CHIP	2.2MF		16V	
C319	1-126-157-11	ELECT	10MF	20%	16V	
C320	1-124-465-00	ELECT	0.47MF	20%	50V	
C321	1-163-125-00	CERAMIC CHIP	220PF	5%	50V	
C322	1-163-003-11	CERAMIC CHIP	330PF	10%	50V	

E1

REF.NO.	PART NO.	DESCRIPTION				REMARK
C323	1-163-099-00	CERAMIC CHIP	18PF	5%	50V	
C324	1-124-234-00	ELECT	22MF	20%	16V	
C325	1-137-502-11	FILM CHIP	0.1MF	5%	25V	
C326	1-137-502-11	FILM CHIP	0.1MF	5%	25V	
C327	1-137-502-11	FILM CHIP	0.1MF	5%	25V	
C328	1-126-157-11	ELECT	10MF	20%	16V	
C329	1-126-157-11	ELECT	10MF	20%	16V	
C330	1-126-157-11	ELECT	10MF	20%	16V	
C331	1-126-301-11	ELECT	1MF	20%	50V	
C332	1-124-584-00	ELECT	100MF	20%	10V	
C333	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V	
C334	1-137-491-11	FILM CHIP	0.1MF	5%	25V	
C335	1-136-169-00	FILM	0.22MF	5%	50V	
C336	1-126-301-11	ELECT	1MF	20%	50V	
C337	1-126-301-11	ELECT	1MF	20%	50V	
C338	1-124-584-00	ELECT	100MF	20%	10V	
C339	1-124-791-11	ELECT	1MF	20%	50V	
C340	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C341	1-126-157-11	ELECT	10MF	20%	16V	
C342	1-124-465-00	ELECT	0.47MF	20%	50V	
C343	1-124-589-11	ELECT	47MF	20%	16V	
C344	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C345	1-124-767-00	ELECT	2.2MF	20%	50V	
C346	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C347	1-136-169-00	FILM	0.22MF	5%	50V	
C348	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C349	1-126-301-11	ELECT	1MF	20%	50V	
C350	1-126-301-11	ELECT	1MF	20%	50V	
C351	1-163-002-11	CERAMIC CHIP	270PF	10%	50V	
C352	1-164-489-11	CERAMIC CHIP	0.22MF	10%	16V	
C353	1-126-163-11	ELECT	4.7MF	20%	50V	
C354	1-136-169-00	FILM	0.22MF	5%	50V	
C355	1-124-465-00	ELECT	0.47MF	20%	50V	
C356	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
C357	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C358	1-124-767-00	ELECT	2.2MF	20%	50V	
C360	1-137-491-11	FILM CHIP	0.1MF	5%	25V	
C361	1-126-301-11	ELECT	1MF	20%	50V	
C362	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C363	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C364	1-126-301-11	ELECT	1MF	20%	50V	
C365	1-164-343-11	CERAMIC CHIP	0.056MF	10%	25V	
C366	1-124-257-00	ELECT	2.2MF	20%	50V	
C367	1-126-157-11	ELECT	10MF	20%	16V	
C368	1-124-234-00	ELECT	22MF	20%	16V	
C369	1-163-001-11	CERAMIC CHIP	220PF	10%	50V	
C370	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C371	1-124-126-00	ELECT	47MF	20%	16V	
C372	1-124-589-11	ELECT	47MF	20%	16V	
C373	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C378	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
C379	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C380	1-163-137-00	CERAMIC CHIP	680PF	5%	50V	
C381	1-163-101-00	CERAMIC CHIP	22PF	5%	50V	
C382	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C383	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C384	1-163-095-00	CERAMIC CHIP	12PF	5%	50V	
		<DIODE>				
D301	8-719-404-46	DIODE MA110				
D302	8-719-404-46	DIODE MA110				
D303	8-719-404-46	DIODE MA110				
D304	8-719-404-46	DIODE MA110				

REF.NO.	PART NO.	DESCRIPTION	REMARK
D305	8-719-404-46	DIODE MA110	
D306	8-719-158-15	DIODE RD5.6S-B	
D307	8-719-404-46	DIODE MA110	
D310	8-719-158-15	DIODE RD5.6S-B	
D312	8-719-404-46	DIODE MA110	
D313	8-719-404-46	DIODE MA110	
D314	8-719-404-46	DIODE MA110	
D315	8-719-404-46	DIODE MA110	
D316	8-719-404-46	DIODE MA110	
D317	8-719-404-46	DIODE MA110	
D318	8-719-404-46	DIODE MA110	
D319	8-719-404-46	DIODE MA110	
D320	8-719-404-46	DIODE MA110	
D321	8-719-400-94	DIODE MA3130	
		<DELAY LINE>	
DL302	1-415-817-11	DELAY LINE	
		<CONNECTOR>	
E1-001	*1-573-965-11	PIN, CONNECTOR (PC BOARD) 50P	
E1-24	*1-564-523-11	PLUG, CONNECTOR 8P	
E1-25	*1-564-521-11	PLUG, CONNECTOR 6P	
E1-26	*1-564-522-11	PLUG, CONNECTOR 7P	
		<IC>	
IC301	8-752-058-68	IC CXA1315M	
IC302	8-752-059-67	IC CXA1465AS	
IC303	8-759-106-02	IC UPC4570G2	
		<COIL>	
L301	1-410-064-11	INDUCTOR 2.7MMH	
L307	1-410-944-31	INDUCTOR CHIP 15UH	
L308	1-410-946-31	INDUCTOR CHIP 22UH	
		<TRANSISTOR>	
Q301	8-729-925-79	TRANSISTOR IMX3	
Q302	8-729-925-79	TRANSISTOR IMX3	
Q303	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q304	8-729-907-46	TRANSISTOR IMZ1	
Q305	8-729-925-79	TRANSISTOR IMX3	
Q306	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q307	8-729-903-10	TRANSISTOR FMW1	
Q309	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q310	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q311	8-729-403-27	TRANSISTOR XN4401	
Q312	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q314	8-729-403-27	TRANSISTOR XN4401	
Q315	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q316	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q317	8-729-216-22	TRANSISTOR 2SA1162-G	
Q321	8-729-925-79	TRANSISTOR IMX3	
Q322	8-729-216-22	TRANSISTOR 2SA1162-G	
Q323	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q324	8-729-216-22	TRANSISTOR 2SA1162-G	
Q325	8-729-216-22	TRANSISTOR 2SA1162-G	
Q326	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q327	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q328	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q329	8-729-925-79	TRANSISTOR IMX3	

REF.NO.	PART NO.	DESCRIPTION				REMARK
Q330	8-729-925-79	TRANSISTOR IMX3				
Q333	8-729-925-79	TRANSISTOR IMX3				
Q334	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q335	8-729-907-46	TRANSISTOR IMZ1				
Q340	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q342	8-729-925-79	TRANSISTOR IMX3				
Q344	8-729-216-22	TRANSISTOR 2SA1162-G				
		<RESISTOR>				
R301	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R302	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R303	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R304	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R305	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R306	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R307	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R308	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R309	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R310	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R312	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R313	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R314	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R316	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R317	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R320	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R325	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R326	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R331	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R332	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W	
R333	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R336	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R338	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R339	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R340	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R341	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R343	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R344	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R345	1-216-292-11	METAL GLAZE	8.2M	5%	1/8W	
R346	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R347	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R348	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R349	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R350	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R351	1-216-674-11	METAL CHIP	9.1K	0.50%	1/10W	
R352	1-216-011-00	METAL GLAZE	27	5%	1/10W	
R353	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R354	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R355	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R356	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R357	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R358	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R359	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R360	1-216-119-00	METAL GLAZE	820K	5%	1/10W	
R361	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R362	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R363	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R364	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R365	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R366	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R367	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R368	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R369	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R370	1-216-033-00	METAL GLAZE	220	5%	1/10W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R371	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R372	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R373	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W	
R374	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R375	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R376	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R377	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R378	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R379	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R380	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R381	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R382	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R383	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	
R384	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R385	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R386	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R387	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R388	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R389	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R390	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R391	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R393	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R394	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R395	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R396	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R397	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R398	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R399	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1301	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1302	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R1303	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R1304	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1305	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1306	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1307	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1308	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1309	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1310	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R1311	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1312	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1313	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1314	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1315	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1316	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1317	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1318	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1319	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1320	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R1321	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1322	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R1323	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1324	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R1325	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1326	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1327	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1328	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1329	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1330	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1331	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1332	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R1333	1-216-129-00	METAL GLAZE	2.2M	5%	1/10W	
R1334	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1335	1-216-089-00	METAL GLAZE	47K	5%	1/10W	

E1 E2

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1336	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1337	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1338	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1339	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1340	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1342	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1343	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R1344	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R1345	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R1346	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1347	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1348	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1349	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1350	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R1351	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1352	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R1353	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R1354	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1355	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R1356	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1357	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1358	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1362	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R1363	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1364	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R1373	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1374	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1379	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R1380	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R1381	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1382	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R1383	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1384	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1385	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R1386	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R1387	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R1388	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R1389	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1390	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1391	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1392	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1394	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1395	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1396	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R1399	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R5301	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R5302	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R5303	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R5304	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R5305	1-216-085-00	METAL GLAZE	33K	5%	1/10W	

<CRYSTAL>

X301	1-567-505-11	OSCILLATOR, CRYSTAL

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*A-1346-060-A E2 BOARD, COMPLETE
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<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C2302	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C2303	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2310	1-163-105-00	CERAMIC CHIP	33PF	5%	50V	
C2313	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
C2314	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2318	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2320	1-124-589-11	ELECT	47MF	20%	16V	
C2321	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
C2322	1-124-234-00	ELECT	22MF	20%	16V	
C2323	1-124-234-00	ELECT	22MF	20%	16V	
C2324	1-124-234-00	ELECT	22MF	20%	16V	
C2325	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2326	1-124-589-11	ELECT	47MF	20%	16V	
C2327	1-164-505-11	CERAMIC CHIP	2.2MF		16V	
C2328	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2329	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2331	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2332	1-124-234-00	ELECT	22MF	20%	16V	
C2333	1-124-234-00	ELECT	22MF	20%	16V	
C2334	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2335	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2336	1-126-163-11	ELECT	4.7MF	20%	16V	
C2337	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2338	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2340	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C2345	1-164-505-11	CERAMIC CHIP	2.2MF		16V	
C2346	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2347	1-163-367-11	CERAMIC CHIP	39PF	5%	50V	
C2349	1-164-505-11	CERAMIC CHIP	2.2MF		16V	
C2350	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2351	1-164-505-11	CERAMIC CHIP	2.2MF		16V	
C2352	1-164-505-11	CERAMIC CHIP	2.2MF		16V	
C2353	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2354	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C2357	1-126-301-11	ELECT	1MF	20%	50V	
C2360	1-163-109-00	CERAMIC CHIP	47PF	5%	50V	

<DIODE>

D2301	8-719-018-27	DIODE MA5091
D2302	8-719-018-27	DIODE MA5091
D2303	8-719-018-27	DIODE MA5091
D2304	8-719-018-27	DIODE MA5091
D2305	8-719-018-27	DIODE MA5091
D2306	8-719-404-46	DIODE MA110
D2307	8-719-946-98	DIODE FMN1
D2308	8-719-946-98	DIODE FMN1
D2309	8-719-404-46	DIODE MA110
D2312	8-719-404-46	DIODE MA110
D2313	8-719-404-46	DIODE MA110
D2314	8-713-300-57	DIODE 1T33
D2317	8-719-404-46	DIODE MA110

<CONNECTOR>

E2-002	*1-573-965-11	PIN, CONNECTOR (PC BOARD) 50P
E2-25	*1-564-521-11	PLUG, CONNECTOR 6P
E2-26	*1-564-522-11	PLUG, CONNECTOR 7P
E2-46	*1-564-518-11	PLUG, CONNECTOR 3P

<IC>

IC2301	8-759-066-52	IC PCA8510T/012-T
IC2303	8-759-925-75	IC SN74HC05ANS
IC2304	8-752-037-15	IC CXA1387S
IC2306	8-759-011-65	IC MC74HC4053F
IC2307	8-752-058-68	IC CXA1315M

REF.NO.	PART NO.	DESCRIPTION				REMARK
		<COIL>				
L2304	1-408-414-00	INDUCTOR	27UH			
		<TRANSISTOR>				
Q2301	8-729-903-10	TRÀNSISTOR FMW1				
Q2303	8-729-403-27	TRANSISTOR XN4401				
Q2304	8-729-925-79	TRANSISTOR IMX3				
Q2305	8-729-903-10	TRANSISTOR FMW1				
Q2306	8-729-403-27	TRANSISTOR XN4401				
Q2307	8-729-403-27	TRANSISTOR XN4401				
Q2308	8-729-403-27	TRANSISTOR XN4401				
Q2309	8-729-903-10	TRANSISTOR FMW1				
Q2310	8-729-403-27	TRANSISTOR XN4401				
Q2311	8-729-903-10	TRANSISTOR FMW1				
Q2312	8-729-403-27	TRANSISTOR XN4401				
Q2313	8-729-903-10	TRANSISTOR FMW1				
Q2314	8-729-403-27	TRANSISTOR XN4401				
Q2315	8-729-903-10	TRANSISTOR FMW1				
Q2317	8-729-216-22	TRANSISTOR 2SA1162-G				
Q2318	8-729-216-22	TRANSISTOR 2SA1162-G				
Q2319	8-729-216-22	TRANSISTOR 2SA1162-G				
Q2320	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q2321	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q2322	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q2324	8-729-216-22	TRANSISTOR 2SA1162-G				
Q2326	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q2327	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q2330	8-729-903-10	TRANSISTOR FMW1				
Q2337	8-729-925-79	TRANSISTOR IMX3				
Q2338	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q2339	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q2340	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q2341	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q2342	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q2345	8-729-920-74	TRANSISTOR 2SC2412K-QR				
		<RESISTOR>				
R2302	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R2303	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2304	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R2305	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R2306	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R2307	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R2308	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R2309	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R2310	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R2311	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R2312	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R2313	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R2314	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2315	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2317	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R2318	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R2319	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R2320	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2321	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R2322	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2323	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R2324	1-216-049-00	METAL GLAZE	1K	5%	1/10W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R2325	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2326	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2327	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R2328	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2329	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2330	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R2331	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R2332	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R2333	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R2334	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R2335	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R2336	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R2337	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R2338	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2339	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2340	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2341	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R2342	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2343	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2344	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R2345	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2346	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2347	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R2350	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2351	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R2352	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2353	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2354	1-216-178-00	METAL GLAZE	150	5%	1/8W	
R2355	1-216-178-00	METAL GLAZE	150	5%	1/8W	
R2356	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R2357	1-216-670-11	METAL CHIP	6.2K	0.50%	1/10W	
R2359	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R2360	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R2361	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R2362	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R2363	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R2364	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R2365	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R2366	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2367	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R2368	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2371	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R2374	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R2375	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2376	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2377	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R2378	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R2379	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R2380	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R2381	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R2382	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2384	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2385	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R2386	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2387	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R2388	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R2390	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R2393	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R2394	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2395	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R2397	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R2399	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R3301	1-216-049-00	METAL GLAZE	1K	5%	1/10W	

E2 **Y2**

REF.NO.	PART NO.	DESCRIPTION				REMARK
R3302	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R3303	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R3304	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R3306	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R3307	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R3308	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R3309	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3310	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R3311	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R3312	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3313	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R3314	1-216-689-11	METAL GLAZE	39K	5%	1/10W	
R3315	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R3316	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R3318	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R3319	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R3320	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R3321	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R3323	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R3324	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3325	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R3328	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R3330	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R3331	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R3332	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R3339	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R3340	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3341	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R3342	1-216-670-11	METAL CHIP	6.2K	0.50%	1/10W	
R3343	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3344	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3349	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3350	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R3351	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R3353	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R3354	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R3360	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3361	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R3362	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3367	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3368	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R3369	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R3370	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R3371	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R3374	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R3387	1-216-178-00	METAL GLAZE	150	5%	1/8W	
R3388	1-216-178-00	METAL GLAZE	150	5%	1/8W	
R3392	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R3401	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R7312	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R7313	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R7314	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	

<CRYSTAL>

X2301	1-577-071-11	VIBRATOR, CERAMIC

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*A-1394-366-A Y2 BOARD, COMPLETE
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<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C401	1-124-234-00	ELECT	22MF	20%	16V	
C424	1-126-301-11	ELECT	1MF	20%	50V	
C425	1-126-301-11	ELECT	1MF	20%	50V	
C426	1-126-301-11	ELECT	1MF	20%	50V	
C427	1-124-465-00	ELECT	0.47MF	20%	50V	
C428	1-126-163-11	ELECT	4.7MF	20%	50V	
C429	1-124-478-11	ELECT	100MF	20%	25V	
C430	1-124-261-00	ELECT	10MF	20%	50V	
C431	1-126-301-11	ELECT	1MF	20%	50V	
C432	1-126-301-11	ELECT	1MF	20%	50V	
C433	1-131-347-00	TANTALUM	1MF	20%	16V	
C434	1-126-301-11	ELECT	1MF	20%	50V	
C435	1-130-309-00	FILM	0.033MF	5%	100V	
C436	1-126-301-11	ELECT	1MF	20%	50V	
C437	1-130-487-00	MYLAR	0.022MF	5%	50V	
C438	1-126-301-11	ELECT	1MF	20%	50V	
C439	1-124-034-51	ELECT	33MF	20%	16V	
C440	1-126-301-11	ELECT	1MF	20%	50V	
C441	1-126-301-11	ELECT	1MF	20%	50V	
C442	1-124-261-00	ELECT	10MF	20%	50V	
C443	1-124-589-11	ELECT	47MF	20%	16V	
C444	1-126-163-11	ELECT	4.7MF	20%	50V	
C445	1-126-163-11	ELECT	4.7MF	20%	50V	
C446	1-124-234-00	ELECT	22MF	20%	16V	
C447	1-126-301-11	ELECT	1MF	20%	50V	
C448	1-136-170-00	FILM	0.27MF	5%	50V	
C449	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C450	1-130-475-00	MYLAR	0.0022MF	5%	50V	
C451	1-124-261-00	ELECT	10MF	20%	50V	
C452	1-124-261-00	ELECT	10MF	20%	50V	
C453	1-130-475-00	MYLAR	0.0022MF	5%	50V	
C454	1-131-368-00	TANTALUM	3.3MF	10%	16V	
C455	1-131-347-00	TANTALUM	1MF	20%	16V	
C456	1-136-171-00	FILM	0.33MF	5%	50V	
C457	1-136-175-00	FILM	0.68MF	5%	50V	
C458	1-126-101-11	ELECT	100MF	20%	16V	
C459	1-126-101-11	ELECT	100MF	20%	16V	
C460	1-126-101-11	ELECT	100MF	20%	16V	
C461	1-124-499-11	ELECT	1MF	20%	50V	
C462	1-124-499-11	ELECT	1MF	20%	50V	
C465	1-130-485-00	MYLAR	0.015MF	5%	50V	
C466	1-130-485-00	MYLAR	0.015MF	5%	50V	
C467	1-136-169-00	FILM	0.22MF	5%	50V	
C468	1-136-169-00	FILM	0.22MF	5%	50V	
C469	1-126-157-11	ELECT	10MF	20%	16V	
C470	1-126-157-11	ELECT	10MF	20%	16V	
C471	1-124-589-11	ELECT	47MF	20%	16V	
C472	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C473	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C474	1-124-234-00	ELECT	22MF	20%	16V	
C475	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C476	1-124-234-00	ELECT	22MF	20%	16V	
C477	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C478	1-124-478-11	ELECT	100MF	20%	25V	
C479	1-126-163-11	ELECT	4.7MF	20%	50V	
C480	1-124-768-11	ELECT	4.7MF	20%	50V	
C481	1-124-768-11	ELECT	4.7MF	20%	50V	
C482	1-126-163-11	ELECT	4.7MF	20%	50V	
C483	1-163-113-00	CERAMIC CHIP	68PF	5%	50V	
C484	1-163-113-00	CERAMIC CHIP	68PF	5%	50V	
C485	1-163-038-00	CERAMIC CHIP	0.1MF		25V	
C487	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C488	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

<DIODE>

REF.NO.	PART NO.	DESCRIPTION				REMARK
D405	8-719-107-13	DIODE RD18M-B1				
D406	8-719-107-13	DIODE RD18M-B1				
D407	8-719-107-13	DIODE RD18M-B1				
D408	8-719-105-83	DIODE RD5.1M-B3				
D409	8-719-981-50	DIODE RB100A				
D410	8-719-981-50	DIODE RB100A				
D413	8-719-158-19	DIODE RD6.2S-B				
D414	8-719-158-55	DIODE RD15S-B				
D415	8-719-158-55	DIODE RD15S-B				

<IC>

REF.NO.	PART NO.	DESCRIPTION				REMARK
IC403	8-759-996-43	IC RC4558PS				
IC404	8-759-067-24	IC 24C04AI/P				
IC406	8-752-037-24	IC CXA1264AS				
IC407	8-759-245-75	IC TA8184P				
IC408	8-752-057-18	IC CXA1315P				

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
Q404	8-729-216-22	TRANSISTOR 2SA1162-G				
Q405	8-729-216-22	TRANSISTOR 2SA1162-G				
Q409	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q410	8-729-920-74	TRANSISTOR 2SC2412K-QR				

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R447	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R453	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R464	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R465	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R466	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R467	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R468	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R469	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R470	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R471	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R472	1-216-686-11	METAL CHIP	30K	0.50%	1/10W	
R473	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R474	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R475	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R476	1-216-673-11	METAL CHIP	8.2K	0.50%	1/10W	
R477	1-216-676-11	METAL CHIP	11K	0.50%	1/10W	
R478	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R479	1-216-673-11	METAL CHIP	8.2K	0.50%	1/10W	
R480	1-216-676-11	METAL CHIP	11K	0.50%	1/10W	
R481	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R482	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R483	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R485	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R486	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R488	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R494	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R495	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R496	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R497	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R498	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R499	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R500	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R501	1-216-669-11	METAL CHIP	5.6K	0.50%	1/10W	
R502	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R503	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	
R504	1-216-669-11	METAL CHIP	5.6K	0.50%	1/10W	
R507	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R509	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R510	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R512	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R513	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	
R515	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R517	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R518	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R519	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R521	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R522	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R523	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R524	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R525	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R526	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R527	1-218-753-11	METAL CHIP	110K	0.50%	1/10W	
R528	1-216-689-11	METAL CHIP	39K	0.50%	1/10W	
R529	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R531	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R532	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R533	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R535	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R536	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R537	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R538	1-218-753-11	METAL CHIP	110K	0.50%	1/10W	
R539	1-216-689-11	METAL CHIP	39K	0.50%	1/10W	
R540	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R541	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R542	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R543	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R546	1-216-682-11	METAL CHIP	20K	0.50%	1/10W	
R547	1-216-682-11	METAL CHIP	20K	0.50%	1/10W	

<CONNECTOR>

Y2-401*1-573-966-11 PIN, CONNECTOR (PC BOARD) 36P

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*A-1316-143-A G BOARD, COMPLETE
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*4-341-751-01 EYELET (EY1~EY5,EY10~EY18,EY24~EY26, EY30~EY32,EY35~EY38,EY40~EY58,EY60~EY62, EY64~EY86,EY89~EY102,EY105~EY116,EY118, EY119,EY128~EY131)

*4-341-752-01 EYELET (EY8,EY9,EY19~EY23,EY27~EY29, EY33,EY34,EY39,EY59,EY63,EY87,EY88, EY103,EY117,EY120~EY127,EY132)

4-382-854-11 SCREW (M3X10), P, SW (+)

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C601 ⚠	1-136-311-51	FILM	0.47MF	20%	125V	
C602 ⚠	1-162-599-81	CERAMIC	0.0047MF	20%	400V	
C603 ⚠	1-162-599-81	CERAMIC	0.0047MF	20%	400V	
C604 ⚠	1-104-346-11	ELECT	1000MF		200V	
C605	1-162-599-12	CERAMIC	0.0047MF	20%	400V	
C606	1-137-580-11	FILM	0.082MF	5%	100V	
C607	1-137-580-11	FILM	0.082MF	5%	100V	
C608	1-137-580-11	FILM	0.082MF	5%	100V	
C609	1-137-580-11	FILM	0.082MF	5%	100V	
C610	1-137-588-11	FILM	0.0047MF	5%	800V	
C611	1-137-592-11	FILM	0.01MF	5%	800V	

G

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION			REMARK
C612	1-164-625-11	CERAMIC	680PF	10%	500V
C613	1-164-625-11	CERAMIC	680PF	10%	500V
C614	1-164-625-11	CERAMIC	680PF	10%	500V
C615	1-164-625-11	CERAMIC	680PF	10%	500V
C616	1-124-443-00	ELECT	100MF	20%	10V
C618	1-164-735-11	CAP, CERAMIC	1500PF		
C619	1-164-735-11	CAP, CERAMIC	1500PF		
C620 ⚠	1-161-741-51	CERAMIC	0.001MF	10%	400V
C621 ⚠	1-161-741-51	CERAMIC	0.001MF	10%	400V
C622	1-162-599-12	CERAMIC	0.0047MF	20%	400V
C623	1-137-493-11	FILM	0.0047MF	5%	630V
C624	1-126-301-11	ELECT	1MF	20%	50V
C625	1-126-162-11	ELECT	3.3MF	20%	50V
C626	1-130-480-00	MYLAR	0.0056MF	5%	50V
C651	1-124-960-11	ELECT	470MF	20%	180V
C652	1-124-556-11	ELECT	2200MF	20%	16V
C653	1-124-913-11	ELECT	470MF	20%	50V
C655	1-162-117-00	CERAMIC	100PF	10%	500V
C656	1-124-119-00	ELECT	330MF	20%	16V
C657	1-106-351-00	MYLAR	0.0022MF		200V
C658	1-126-157-11	ELECT	10MF	20%	16V
C659	1-130-485-00	MYLAR	0.015MF	5%	50V
C661	1-124-484-11	ELECT	220MF	20%	35V
C662	1-124-484-11	ELECT	220MF	20%	35V
C663	1-126-104-11	ELECT	470MF	20%	35V
C666	1-126-101-11	ELECT	100MF	20%	16V
C667	1-124-443-00	ELECT	100MF	20%	10V
C668	1-124-638-11	ELECT	22MF	20%	6.3V
C669	1-162-318-11	CERAMIC	0.001MF	10%	500V
C670	1-162-318-11	CERAMIC	0.001MF	10%	500V
C672	1-124-484-11	ELECT	220MF	20%	35V
C677 ⚠	1-136-311-51	FILM	0.47MF	20%	125V
C678	1-124-360-00	ELECT	1000MF	20%	16V

<DIODE>

REF.NO.	PART NO.	DESCRIPTION
D601 ⚠	8-719-022-99	DIODE D6SB60L
D602	8-719-510-48	DIODE D1N20R
D603	8-719-510-48	DIODE D1N20R
D604	8-719-510-48	DIODE D1N20R
D605	8-719-510-48	DIODE D1N20R
D606	8-719-911-19	DIODE 1SS119
D607	8-719-510-48	DIODE D1N20R
D608	8-719-510-48	DIODE D1N20R
D609	8-719-510-48	DIODE D1N20R
D610	8-719-510-48	DIODE D1N20R
D611	8-719-510-48	DIODE D1N20R
D612	8-719-510-48	DIODE D1N20R
D613	8-719-109-93	DIODE RD6.2ES-B2
D651	8-719-027-43	DIODE S2L20UF
D652	8-719-027-43	DIODE S2L20UF
D653	8-719-027-43	DIODE S2L20UF
D654	8-719-027-43	DIODE S2L20UF
D655	8-719-510-13	DIODE D10SC4MR
D656	8-719-022-97	DIODE D2S4MF
D657	8-719-510-02	DIODE D1NS4
D663	8-719-510-02	DIODE D1NS4
D665	8-719-510-02	DIODE D1NS4
D666	8-719-109-85	DIODE RD5.1ES-B2
D667	8-719-911-19	DIODE 1SS119
D668	8-719-911-19	DIODE 1SS119
D669	8-719-109-54	DIODE RD2.2ES-B2
D670	8-719-911-19	DIODE 1SS119
D671	8-719-110-31	DIODE RD12ES-B2
D672	8-719-911-19	DIODE 1SS119

<FUSE>

REF.NO.	PART NO.	DESCRIPTION
F1 ⚠	1-532-783-21	FUSE, MICRO (SECONDARY) 5A/125V
F601 ⚠	1-576-222-11	FUSE 6.3A/125V
	1-533-190-11	CLIP, FUSE; F601
F602 ⚠	1-576-107-22	FUSE 3.15A/250V
	1-533-223-11	CLIP, FUSE; F602

<FERRITE BEAD>

REF.NO.	PART NO.	DESCRIPTION
FB651	1-410-397-21	FERRITE BEAD INDUCTOR
FB652	1-410-397-21	FERRITE BEAD INDUCTOR
FB653	1-410-397-21	FERRITE BEAD INDUCTOR
FB654	1-410-397-21	FERRITE BEAD INDUCTOR
FB655	1-412-911-11	INDUCTOR, FERRITE BEAD
FB656	1-410-397-21	FERRITE BEAD INDUCTOR
FB659	1-412-911-11	INDUCTOR, FERRITE BEAD
FB669	1-410-397-21	FERRITE BEAD INDUCTOR
FB670	1-410-397-21	FERRITE BEAD INDUCTOR

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION
G3	*1-573-986-11	PIN, CONNECTOR (PC BOARD) 5P
G4	*1-564-510-11	PLUG, CONNECTOR 7P
G27	*1-573-963-11	PIN, CONNECTOR (PC BOARD) 3P
G28	*1-573-963-11	PIN, CONNECTOR (PC BOARD) 3P
G29	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P
G31	*1-580-843-11	PIN, CONNECTOR (POWER)
G34	*1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P
TP651	*1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P

<IC>

REF.NO.	PART NO.	DESCRIPTION
IC651 ⚠	1-809-524-11	MODULE, POWER DM-44
IC654	8-719-156-73	PHOTO COUPLER PS2501 1LB

<COIL>

REF.NO.	PART NO.	DESCRIPTION	
L651	1-412-526-11	INDUCTOR	12UH
L652	1-410-673-31	INDUCTOR	68UH
L653	1-412-532-11	INDUCTOR	39UH
L654	1-412-532-11	INDUCTOR	39UH
L655	1-412-532-11	INDUCTOR	39UH
L656	1-412-526-11	INDUCTOR	12UH

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION
Q601	8-729-927-23	TRANSISTOR 2SC4664NPR-F
Q602	8-729-927-23	TRANSISTOR 2SC4664NPR-F
Q603	8-729-927-23	TRANSISTOR 2SC4664NPR-F
Q604	8-729-927-23	TRANSISTOR 2SC4664NPR-F
Q605	8-729-209-15	TRANSISTOR 2SD2012
Q652	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q653	8-729-201-53	TRANSISTOR 2SA1015-GR
Q654	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q655	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q656	8-729-119-78	TRANSISTOR 2SC2785-HFE

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R601	1-249-388-11	CARBON	3.9	5%	1/4W	F
R602 ⚠	1-205-707-12	WIREWOUND	2.2	5%	10W	F
R603	1-247-889-00	CARBON	270K	5%	1/4W	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

G **C**

REF.NO.	PART NO.	DESCRIPTION				REMARK
R604	1-216-443-11	METAL OXIDE	56K	5%	1W	F
R605	1-216-443-11	METAL OXIDE	56K	5%	1W	F
R606	1-216-443-11	METAL OXIDE	56K	5%	1W	F
R607	1-216-443-11	METAL OXIDE	56K	5%	1W	F
R608	1-216-352-11	METAL OXIDE	1.8	5%	1W	F
R609	1-216-352-11	METAL OXIDE	1.8	5%	1W	F
R610	1-216-352-11	METAL OXIDE	1.8	5%	1W	F
R611	1-216-352-11	METAL OXIDE	1.8	5%	1W	F
R612	1-249-377-11	CARBON	0.47	5%	1/4W	F
R613	1-215-447-00	METAL	12K	1%	1/4W	
R614	1-215-433-00	METAL	3.3K	1%	1/4W	
R615	1-249-441-11	CARBON	100K	5%	1/4W	
R616	1-249-417-11	CARBON	1K	5%	1/4W	
R617	1-249-417-11	CARBON	1K	5%	1/4W	
R618	1-247-688-11	CARBON	10	5%	1/4W	F
R619	1-216-343-00	METAL OXIDE	0.33	5%	1W	F
R620	1-202-730-00	SOLID	8.2M	20%	1/2W	
R621	1-249-423-11	CARBON	3.3K	5%	1/4W	
R622⚠	1-202-888-91	SOLID	2.2M	20%	1/2W	
R623	1-212-956-00	FUSIBLE	8.2	5%	1/2W	F
R651	1-249-405-11	CARBON	100	5%	1/4W	F
R652	1-215-868-00	METAL OXIDE	680	5%	1W	F
R653	1-249-405-11	CARBON	100	5%	1/4W	
R654	1-249-399-11	CARBON	33	5%	1/4W	F
R655	1-249-393-11	CARBON	10	5%	1/4W	F
R656	1-249-443-11	CARBON	0.47	5%	1/4W	F
R658	1-215-408-00	METAL	300	1%	1/4W	
R659	1-249-443-11	CARBON	0.47	5%	1/4W	F
R660	1-215-446-00	METAL	11K	1%	1/4W	
R661	1-215-418-00	METAL	750	1%	1/4W	
R662	1-249-421-11	CARBON	2.2K	5%	1/4W	
R663	1-249-410-11	CARBON	270	5%	1/4W	
R664	1-215-861-00	METAL OXIDE	47	5%	1W	F
R665	1-215-403-00	METAL	180	1%	1/4W	
R666	1-215-421-00	METAL	1K	1%	1/4W	
R667	1-215-432-00	METAL	3K	1%	1/4W	
R669	1-249-421-11	CARBON	2.2K	5%	1/4W	
R670	1-249-412-11	CARBON	390	5%	1/4W	
R671	1-216-384-11	METAL OXIDE	0.39	5%	3W	F
R672	1-249-443-11	CARBON	0.47	5%	1/4W	F
R673	1-249-415-11	CARBON	680	5%	1/4W	
R674	1-249-421-11	CARBON	2.2K	5%	1/4W	
R675	1-249-415-11	CARBON	680	5%	1/4W	
R676	1-249-377-11	CARBON	0.47	5%	1/4W	F
R677	1-249-433-11	CARBON	22K	5%	1/4W	
R678	1-249-429-11	CARBON	10K	5%	1/4W	
R679	1-216-428-00	METAL OXIDE	180	5%	1W	F
R680	1-216-428-00	METAL OXIDE	180	5%	1W	F
R681	1-249-377-11	CARBON	0.47	5%	1/4W	F
R682	1-249-443-11	CARBON	0.47	5%	1/4W	F

<RELAY>

REF.NO.	PART NO.	DESCRIPTION
RY601	1-515-516-00	RELAY
RY602⚠	1-515-669-21	RELAY

<TRANSFORMER>

REF.NO.	PART NO.	DESCRIPTION
T601⚠	1-424-585-11	TRANSFORMER, LINE FILTER
T602⚠	1-424-585-11	TRANSFORMER, LINE FILTER
T603	1-450-300-31	TRANSFORMER, CONVERTER DRIVE
T604⚠	1-450-958-11	TRANSFORMER, CONVERTER (PRT)
T605	1-424-663-11	TRANSFORMER, FERRIITE (SBT)

<THERMISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
THP601⚠	1-809-539-11	THERMISTOR, POSITIVE	

<VARISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
VDR601⚠	1-809-786-11	VARISTOR	
VDR602	1-809-264-81	VARISTOR	

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*A-1331-209-A C BOARD, COMPLETE
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*4-341-751-01 EYELET (EY51~EY53,EY55,EY57,EY58,EY66)
*4-341-752-01 EYELET (EY50,EY56,EY59~EY61,EY63~EY65, EY67,EY68)

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION
C2	*1-573-964-11	PIN, CONNECTOR (PC BOARD) 6P
C24	*1-564-511-51	PLUG, CONNECTOR 8P
C42	*1-691-134-11	PIN, CONNECTOR (PC BOARD) 2P

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION			
C701	1-162-116-00	CERAMIC	680PF	10%	2KV
C702	1-137-490-11	FILM	0.01MF	10%	1KV
C704	1-123-946-00	ELECT	4.7MF	20%	250V
C705	1-106-375-12	MYLAR	0.022MF		200V
C706	1-106-375-12	MYLAR	0.022MF		200V
C707	1-164-083-11	CERAMIC	680PF	10%	50V
C708	1-164-083-11	CERAMIC	680PF	10%	50V
C709	1-164-083-11	CERAMIC	680PF	10%	50V
C710	1-164-083-11	CERAMIC	680PF	10%	50V
C711	1-124-120-11	ELECT	220MF	20%	16V
C712	1-164-082-11	CERAMIC	560PF	10%	50V
C713	1-164-083-11	CERAMIC	680PF	10%	50V
C715	1-102-129-00	CERAMIC	0.01MF	10%	50V
C718	1-102-129-00	CERAMIC	0.01MF	10%	50V
C733	1-102-074-00	CERAMIC	0.001MF	10%	50V

<DIODE>

REF.NO.	PART NO.	DESCRIPTION
D701	8-719-911-19	DIODE 1SS119
D702	8-719-911-19	DIODE 1SS119
D703	8-719-911-19	DIODE 1SS119
D704	8-719-911-19	DIODE 1SS119
D705	8-719-911-19	DIODE 1SS119
D706	8-719-911-19	DIODE 1SS119
D707	8-719-911-19	DIODE 1SS119
D708	8-719-911-19	DIODE 1SS119
D709	8-719-911-19	DIODE 1SS119
D710	8-719-901-83	DIODE 1SS83
D711	8-719-901-83	DIODE 1SS83
D712	8-719-901-83	DIODE 1SS83
D713	8-719-901-83	DIODE 1SS83
D714	8-719-911-19	DIODE 1SS119

<JACK>

REF.NO.	PART NO.	DESCRIPTION
J701	1-540-223-11	SOCKET, PICTURE TUBE

<COIL>

REF.NO.	PART NO.	DESCRIPTION	
L701	1-410-671-31	INDUCTOR	47UH

C D

REF.NO.	PART NO.	DESCRIPTION				REMARK
L702	1-410-645-31	INDUCTOR	100UH			
L703	1-410-677-31	INDUCTOR	180UH			
L706	1-410-677-31	INDUCTOR	180UH			

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q701	8-729-326-11	TRANSISTOR 2SC2611	
Q702	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q703	8-729-200-17	TRANSISTOR 2SA1091-O	
Q704	8-729-326-11	TRANSISTOR 2SC2611	
Q705	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q706	8-729-200-17	TRANSISTOR 2SA1091-O	
Q707	8-729-200-17	TRANSISTOR 2SA1091-O	
Q708	8-729-326-11	TRANSISTOR 2SC2611	
Q709	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q710	8-729-255-12	TRANSISTOR 2SC2551-O	
Q711	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q712	8-729-255-12	TRANSISTOR 2SC2551-O	
Q714	8-729-200-17	TRANSISTOR 2SA1091-O	
Q715	8-729-200-17	TRANSISTOR 2SA1091-O	
Q716	8-729-200-17	TRANSISTOR 2SA1091-O	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R702	1-202-883-11	SOLID	680K	20%	1/2W	
R703	1-202-838-00	SOLID	100K	20%	1/2W	
R705	1-249-433-11	CARBON	22K	5%	1/4W	
R706	1-202-815-11	SOLID	47K	20%	1/2W	
R707	1-202-842-11	SOLID	220K	20%	1/2W	
R708	1-202-818-00	SOLID	1K	20%	1/2W	
R709	1-202-818-00	SOLID	1K	20%	1/2W	
R710	1-202-818-00	SOLID	1K	20%	1/2W	
R711	1-249-433-11	CARBON	22K	5%	1/4W	
R713	1-216-486-00	METAL OXIDE	8.2K	5%	3W	F
R715	1-202-549-00	SOLID	100	10%	1/2W	
R716	1-216-486-00	METAL OXIDE	8.2K	5%	3W	F
R720	1-216-486-00	METAL OXIDE	8.2K	5%	3W	F
R722	1-249-433-11	CARBON	22K	5%	1/4W	
R723	1-249-405-11	CARBON	100	5%	1/4W	
R724	1-249-405-11	CARBON	100	5%	1/4W	
R725	1-249-429-11	CARBON	10K	5%	1/4W	
R726	1-249-408-11	CARBON	180	5%	1/4W	
R727	1-249-429-11	CARBON	10K	5%	1/4W	
R728	1-249-408-11	CARBON	180	5%	1/4W	
R729	1-249-405-11	CARBON	100	5%	1/4W	
R730	1-249-408-11	CARBON	180	5%	1/4W	
R731	1-249-409-11	CARBON	220	5%	1/4W	F
R732	1-249-409-11	CARBON	220	5%	1/4W	F
R733	1-249-409-11	CARBON	220	5%	1/4W	F
R735	1-249-418-11	CARBON	1.2K	5%	1/4W	
R737	1-249-418-11	CARBON	1.2K	5%	1/4W	
R739	1-249-433-11	CARBON	22K	5%	1/4W	
R740	1-215-902-11	METAL OXIDE	47K	5%	2W	F
R741	1-249-417-11	CARBON	1K	5%	1/4W	F
R742	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R743	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R744	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R745	1-249-417-11	CARBON	1K	5%	1/4W	F
R746	1-215-902-11	METAL OXIDE	47K	5%	1W	F
R747	1-249-429-11	CARBON	10K	5%	1/4W	F
R748	1-216-365-00	METAL OXIDE	0.47	5%	2W	F
R749	1-249-437-11	CARBON	47K	5%	1/4W	
R750	1-249-409-11	CARBON	220	5%	1/4W	F
R751	1-249-395-11	CARBON	15	5%	1/4W	
R752	1-249-393-11	CARBON	10	5%	1/4W	
R753	1-249-390-11	CARBON	5.6	5%	1/4W	
R754	1-249-418-11	CARBON	1.2K	5%	1/4W	
R777	1-249-441-11	CARBON	100K	5%	1/4W	

<VARIABLE RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
RV701	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M	
RV702	1-241-714-11	RES, ADJ, METAL FILM 110M	

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*A-1341-550-A D BOARD, COMPLETE
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PART NO.	DESCRIPTION
*4-341-751-01	EYELET (EY801~EY804,EY901~EY904)
*4-341-752-01	EYELET (EY811,EY812)
4-382-854-11	SCREW (M3X10), P, SW (+)

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C801	1-124-589-11	ELECT	47MF	20%	16V	
C802	1-124-589-11	ELECT	47MF	20%	16V	
C804	1-130-483-00	MYLAR	0.01MF	5%	50V	
C805	1-136-165-00	FILM	0.1MF	5%	50V	
C806	1-136-165-00	FILM	0.1MF	5%	50V	
C807	1-124-360-00	ELECT	1000MF	20%	16V	
C809	1-136-104-00	FILM	0.16MF	5%	200V	
C810	1-136-177-00	FILM	1MF	5%	50V	
C811	1-162-318-11	CERAMIC	0.001MF	10%	500V	
C812	1-126-163-11	ELECT	4.7MF	20%	50V	
C813	1-130-491-00	MYLAR	0.047MF	5%	50V	
C814	1-124-261-00	ELECT	10MF	20%	50V	
C815	1-124-261-00	ELECT	10MF	20%	50V	
C816	1-124-234-00	ELECT	22MF	20%	16V	
C817	1-126-163-11	ELECT	4.7MF	20%	50V	
C818	1-124-589-11	ELECT	47MF	20%	16V	
C819	1-136-165-00	FILM	0.1MF	5%	50V	
C820	1-126-103-11	ELECT	470MF	20%	16V	
C901	1-136-173-00	FILM	0.47MF	5%	50V	
C902	1-124-261-00	ELECT	10MF	20%	50V	
C903	1-136-169-00	FILM	0.22MF	5%	50V	
C904	1-130-471-00	MYLAR	0.001MF	5%	50V	
C905	1-124-261-00	ELECT	10MF	20%	50V	
C906	1-124-046-00	ELECT	10MF	20%	160V	
C907	1-124-465-00	ELECT	0.47MF	20%	50V	
C908	1-102-112-00	CERAMIC	330PF	10%	50V	
C910	1-136-103-91	FILM	0.1MF	5%	200V	
C911	1-136-165-00	FILM	0.1MF	5%	50V	
C913	1-124-589-11	ELECT	47MF	20%	16V	
C914	1-106-367-00	MYLAR	0.01MF	10%	100V	
C915	1-126-301-11	ELECT	1MF	20%	50V	
C917	1-130-471-00	MYLAR	0.001MF	5%	50V	
C918	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C920	1-136-601-11	FILM	0.01MF	5%	630V	
C922	1-124-557-11	ELECT	1000MF	20%	25V	
C923	1-130-471-00	MYLAR	0.001MF	5%	50V	
C925	1-124-261-00	ELECT	10MF	20%	50V	
C926	1-136-165-00	FILM	0.1MF	5%	50V	
C927	1-136-171-00	FILM	0.33MF	5%	50V	
C928	1-124-261-00	ELECT	10MF	20%	50V	
C930	1-130-483-00	MYLAR	0.01MF	5%	50V	
C931	1-130-475-00	MYLAR	0.0022MF	10%	50V	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D14	*1-573-299-11	CONNECTOR, BOARD TO BOARD 10P	
D18	*1-573-299-11	CONNECTOR, BOARD TO BOARD 10P	
D20	*1-564-524-11	PLUG, CONNECTOR 9P	
DY2	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D801	8-719-913-44	DIODE ERA82-004	
D802	8-719-911-19	DIODE 1SS119	
D803	8-719-911-19	DIODE 1SS119	
D804	8-719-911-19	DIODE 1SS119	
D805	8-719-801-35	THYRISTOR SHOR3D42	
D806	8-719-980-78	DIODE ERA83-006	
D807	8-719-980-78	DIODE ERA83-006	
D808	8-719-911-19	DIODE 1SS119	
D809	8-719-911-19	DIODE 1SS119	
D810	8-719-911-19	DIODE 1SS119	
D811	8-719-300-33	DIODE RU-3AM	
D812	8-719-911-19	DIODE 1SS119	
D813	8-719-109-88	DIODE RD5.6ES-B1	
D814	8-719-110-13	DIODE RD9.1ES-B2	
D815	8-719-911-19	DIODE 1SS119	
D816	8-719-911-19	DIODE 1SS119	
D901	8-719-911-19	DIODE 1SS119	
D902	8-719-109-96	DIODE RD6.8ES-B1	
D903	8-719-979-85	DIODE EGP20G	
D906	8-719-980-78	DIODE ERA83-006	
D907	8-719-911-19	DIODE 1SS119	
D908	8-719-980-78	DIODE ERA83-006	
D911	8-719-911-19	DIODE 1SS119	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC801	8-749-920-58	IC SI-3090CA	
IC802	8-752-052-88	IC CXA1526P	
IC803	8-759-135-80	IC UPC358C	
IC901	8-759-135-80	IC UPC358C	
IC903	8-759-987-16	IC LM393P	

<COIL>

REF.NO.	PART NO.	DESCRIPTION	REMARK
L801	1-459-592-11	COIL (WITH CORE) (PMC)	
L802	1-459-941-12	COIL, CHOKE 3.4MMH	
L901	1-410-093-11	INDUCTOR 33MMH	
L902	1-459-075-00	COIL,DYNAMIC CONVERSION CHOKE	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q802	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q803	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q804	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q805	8-729-140-97	TRANSISTOR 2SB734-34	
Q806	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q807	8-729-140-97	TRANSISTOR 2SB734-34	
Q808	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q809	8-729-209-15	TRANSISTOR 2SD2012	
Q810	8-729-140-96	TRANSISTOR 2SD774-34	
Q811	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q901	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q902	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q903	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q904	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q905	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q906	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q907	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q908	8-729-300-80	TRANSISTOR 2SB860	
Q909	8-729-140-96	TRANSISTOR 2SD774-34	
Q910	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q911	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q912	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q913	8-729-011-02	TRANSISTOR 2SK1917	
Q914	8-729-119-76	TRANSISTOR 2SA1175-HFE	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R801	1-249-409-11	CARBON	220	5%	1/4W	
R802	1-249-409-11	CARBON	220	5%	1/4W	
R804	1-247-891-00	CARBON	330K	5%	1/4W	
R806	1-247-885-00	CARBON	180K	5%	1/4W	
R807	1-247-891-00	CARBON	330K	5%	1/4W	
R808	1-215-461-00	METAL	47K	1%	1/4W	
R809	1-249-423-11	CARBON	3.3K	5%	1/4W	
R810	1-249-413-11	CARBON	470	5%	1/4W	
R811	1-249-434-11	CARBON	27K	5%	1/4W	
R812	1-249-438-11	CARBON	56K	5%	1/4W	
R813	1-249-417-11	CARBON	1K	5%	1/4W	
R815	1-249-427-11	CARBON	6.8K	5%	1/4W	
R816	1-249-425-11	CARBON	4.7K	5%	1/4W	
R817	1-249-422-11	CARBON	2.7K	5%	1/4W	
R818	1-249-417-11	CARBON	1K	5%	1/4W	
R819	1-249-432-11	CARBON	18K	5%	1/4W	
R820	1-249-417-11	CARBON	1K	5%	1/4W	
R821	1-216-379-11	METAL OXIDE	6.8	5%	2W	F
R822	1-249-423-11	CARBON	3.3K	5%	1/4W	
R824	1-249-417-11	CARBON	1K	5%	1/4W	F
R825	1-215-857-11	METAL OXIDE	10	5%	1W	F
R826	1-249-404-00	CARBON	82	5%	1/4W	
R827	1-215-875-11	METAL OXIDE	10K	5%	1W	F
R828	1-249-441-11	CARBON	100K	5%	1/4W	
R829	1-249-414-11	CARBON	560	5%	1/4W	
R830	1-249-411-11	CARBON	330	5%	1/4W	
R831	1-249-426-11	CARBON	5.6K	5%	1/4W	
R832	1-215-887-00	METAL OXIDE	150	5%	2W	F
R833	1-249-421-11	CARBON	2.2K	5%	1/4W	
R834	1-249-438-11	CARBON	56K	5%	1/4W	
R835	1-249-393-11	CARBON	10	5%	1/4W	
R836	1-249-435-11	CARBON	33K	5%	1/4W	
R837	1-249-435-11	CARBON	33K	5%	1/4W	
R838	1-216-359-00	METAL OXIDE	6.8	5%	1W	F
R839	1-249-410-11	CARBON	270	5%	1/4W	
R840	1-249-429-11	CARBON	10K	5%	1/4W	
R841	1-249-437-11	CARBON	47K	5%	1/4W	
R842	1-249-429-11	CARBON	10K	5%	1/4W	
R843	1-249-421-11	CARBON	2.2K	5%	1/4W	
R901	1-249-425-11	CARBON	4.7K	5%	1/4W	
R902	1-249-438-11	CARBON	56K	5%	1/4W	
R903	1-249-429-11	CARBON	10K	5%	1/4W	
R904	1-249-429-11	CARBON	10K	5%	1/4W	
R905	1-249-429-11	CARBON	10K	5%	1/4W	
R906	1-249-425-11	CARBON	4.7K	5%	1/4W	
R907	1-249-429-11	CARBON	10K	5%	1/4W	
R908	1-249-437-11	CARBON	47K	5%	1/4W	
R909	1-249-433-11	CARBON	22K	5%	1/4W	
R910	1-249-431-11	CARBON	15K	5%	1/4W	
R911	1-247-895-00	CARBON	470K	5%	1/4W	
R912	1-249-429-11	CARBON	10K	5%	1/4W	
R913	1-249-425-11	CARBON	4.7K	5%	1/4W	
R914	1-249-401-11	CARBON	47	5%	1/4W	

D **V**

REF.NO.	PART NO.	DESCRIPTION				REMARK
R915	1-249-425-11	CARBON	4.7K	5%	1/4W	
R916	1-249-421-11	CARBON	2.2K	5%	1/4W	
R917	1-249-439-11	CARBON	68K	5%	1/4W	
R918	1-249-413-11	CARBON	470	5%	1/4W	
R919	1-249-437-11	CARBON	47K	5%	1/4W	
R920	1-249-418-11	CARBON	1.2K	5%	1/4W	F
R921	1-215-876-00	METAL OXIDE	15K	5%	1W	F
R922	1-215-870-11	METAL OXIDE	1.5K	5%	1W	F
R923	1-249-429-11	CARBON	10K	5%	1/4W	
R924	1-249-423-11	CARBON	3.3K	5%	1/4W	
R925	1-249-415-11	CARBON	680	5%	1/4W	
R926	1-249-409-11	CARBON	220	5%	1/4W	
R927	1-249-429-11	CARBON	10K	5%	1/4W	
R928	1-249-421-11	CARBON	2.2K	5%	1/4W	
R929	1-249-429-11	CARBON	10K	5%	1/4W	
R930	1-249-434-11	CARBON	27K	5%	1/4W	
R931	1-249-421-11	CARBON	2.2K	5%	1/4W	
R933	1-249-421-11	CARBON	2.2K	5%	1/4W	
R934	1-249-439-11	CARBON	68K	5%	1/4W	
R935	1-249-429-11	CARBON	10K	5%	1/4W	
R936	1-249-429-11	CARBON	10K	5%	1/4W	
R937	1-249-421-11	CARBON	2.2K	5%	1/4W	
R938	1-249-405-11	CARBON	100	5%	1/4W	
R939	1-249-405-11	CARBON	100	5%	1/4W	F
R940	1-249-405-11	CARBON	100	5%	1/4W	F
R941	1-249-405-11	CARBON	100	5%	1/4W	
R944	1-249-432-11	CARBON	18K	5%	1/4W	
R945	1-247-895-00	CARBON	470K	5%	1/4W	
R946	1-249-425-11	CARBON	4.7K	5%	1/4W	
R947	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R948	1-249-435-11	CARBON	33K	5%	1/4W	
R950	1-249-425-11	CARBON	4.7K	5%	1/4W	
R952	1-249-405-11	CARBON	100	5%	1/4W	
R953	1-247-889-00	CARBON	270K	5%	1/4W	
R954	1-247-889-00	CARBON	270K	5%	1/4W	
R956	1-249-433-11	CARBON	22K	5%	1/4W	

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*A-1342-182-A V BOARD, COMPLETE
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*4-341-751-01	EYELET (EY5)	
*4-341-752-01	EYELET (EY1~EY4)	
4-382-854-11	SCREW (M3X10), P, SW (+)	

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C951	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C952	1-102-125-00	CERAMIC	0.0047MF	10%	50V	
C961	1-161-830-00	CERAMIC	0.0047MF		500V	
C962	1-102-951-00	CERAMIC	15PF	5%	50V	
C963	1-123-935-00	ELECT	33MF	20%	160V	
C964	1-126-101-11	ELECT	100MF	20%	16V	
C968	1-106-383-00	MYLAR	0.047MF		200V	
C969	1-124-799-11	ELECT	2.2MF	20%	160V	
C970	1-106-391-12	MYLAR	0.1MF	10%	200V	
C971	1-126-157-11	ELECT	10MF	20%	16V	
C972	1-126-541-11	ELECT	330MF	20%	16V	
C973	1-106-383-00	MYLAR	0.047MF		200V	
C974	1-102-959-00	CERAMIC	22PF	5%	50V	
C975	1-126-101-11	ELECT	100MF	20%	16V	
C976	1-126-157-11	ELECT	10MF	20%	16V	
C977	1-102-963-00	CERAMIC	33PF	5%	50V	
C978	1-130-471-00	MYLAR	0.001MF	5%	50V	
C979	1-130-471-00	MYLAR	0.001MF	5%	50V	
C980	1-124-915-11	ELECT	10MF	20%	16V	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D961	8-719-911-19	DIODE 1SS119	
D963	8-719-911-19	DIODE 1SS119	
D964	8-719-911-19	DIODE 1SS119	
D965	8-719-911-19	DIODE 1SS119	
D966	8-719-911-19	DIODE 1SS119	
D967	8-719-110-88	DIODE RD39ES-B2	
D968	8-719-110-88	DIODE RD39ES-B2	

<COIL>

REF.NO.	PART NO.	DESCRIPTION		REMARK
L962	1-408-416-00	INDUCTOR	39UH	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q956	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q961	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q962	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q963	8-729-208-39	TRANSISTOR 2SA1306A-Y	
Q964	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q965	8-729-208-72	TRANSISTOR 2SC3298B-Y	
Q966	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q967	8-729-142-86	TRANSISTOR 2SC3733	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R951	1-249-434-11	CARBON	27K	5%	1/4W	
R952	1-249-423-11	CARBON	3.3K	5%	1/4W	
R953	1-249-423-11	CARBON	3.3K	5%	1/4W	
R954	1-247-903-00	CARBON	1M	5%	1/4W	
R955	1-249-421-11	CARBON	2.2K	5%	1/4W	
R962	1-249-409-11	CARBON	220	5%	1/4W	
R963	1-249-419-11	CARBON	1.5K	5%	1/4W	
R964	1-247-734-11	CARBON	39	5%	1/2W	F
R965	1-249-414-11	CARBON	560	5%	1/4W	F
R966	1-249-418-11	CARBON	1.2K	5%	1/4W	
R968	1-249-418-11	CARBON	1.2K	5%	1/4W	
R969	1-249-384-11	CARBON	1.8	5%	1/4W	F
R970	1-249-435-11	CARBON	33K	5%	1/4W	
R972	1-249-432-11	CARBON	18K	5%	1/4W	
R974	1-216-476-11	METAL OXIDE	180	5%	3W	F
R975	1-249-417-11	CARBON	1K	5%	1/4W	F
R976	1-249-432-11	CARBON	18K	5%	1/4W	
R977	1-249-438-11	CARBON	56K	5%	1/4W	
R978	1-249-430-11	CARBON	12K	5%	1/4W	
R979	1-249-414-11	CARBON	560	5%	1/4W	
R980	1-249-420-11	CARBON	1.8K	5%	1/4W	
R981	1-249-415-11	CARBON	680	5%	1/4W	
R982	1-249-384-11	CARBON	1.8	5%	1/4W	F
R983	1-249-441-11	CARBON	100K	5%	1/4W	
R984	1-249-405-11	CARBON	100	5%	1/4W	
R985	1-249-400-11	CARBON	39	5%	1/4W	F
R986	1-249-435-11	CARBON	33K	5%	1/4W	
R987	1-249-428-11	CARBON	8.2K	5%	1/4W	
R988	1-249-418-11	CARBON	1.2K	5%	1/4W	
R989	1-249-413-11	CARBON	470	5%	1/4W	
R990	1-216-451-11	METAL OXIDE	120	5%	2W	F
R991	1-249-409-11	CARBON	220	5%	1/4W	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

REF.NO.	PART NO.	DESCRIPTION				REMARK
		<CONNECTOR>				
V20	*1-564-512-11	PLUG, CONNECTOR 9P				

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*A-1347-067-A VC BOARD, COMPLETE
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REF.NO.	PART NO.	DESCRIPTION				REMARK
	*4-341-751-01	EYELET (EY1801~EY1804)				
		<CAPACITOR>				
C1801	1-124-478-11	ELECT	100MF	20%	25V	
C1802	1-124-478-11	ELECT	100MF	20%	25V	
C1803	1-130-487-00	MYLAR	0.022MF	5%	50V	
C1804	1-102-973-00	CERAMIC	100PF	5%	50V	
C1805	1-130-471-00	FILM	0.001MF	5%	50V	
C1806	1-130-487-00	MYLAR	0.022MF	5%	50V	
C1807	1-130-471-00	MYLAR	0.001MF	5%	50V	
C1808	1-102-228-00	CERAMIC	470PF	10%	500V	
C1809	1-124-798-11	ELECT	1MF	20%	160V	
C1810	1-130-495-00	MYLAR	0.1MF	5%	50V	
C1811	1-124-798-11	ELECT	1MF	20%	160V	
C1812	1-136-756-11	FILM	0.24MF	5%	200V	
		<DIODE>				
D1801	8-719-911-19	DIODE 1SS119				
D1802	8-719-911-19	DIODE 1SS119				
D1803	8-719-300-33	DIODE RU-3AM				
D1804	8-719-300-33	DIODE RU-3AM				
D1805	8-719-300-33	DIODE RU-3AM				
		<IC>				
IC1801	8-759-987-16	IC LM393P				
IC1802	8-759-987-16	IC LM393P				
IC1803	8-759-708-09	IC NJM78L09A				
		<COIL>				
L1801	1-460-200-11	COIL (WITH CORE)				
		<TRANSISTOR>				
Q1801	8-729-012-26	TRANSISTOR IRF540Y				
Q1802	8-729-012-26	TRANSISTOR IRF540Y				
Q1803	8-729-931-45	TRANSISTOR IRF614				
		<RESISTOR>				
R1801	1-249-435-11	CARBON	33K	5%	1/4W	
R1802	1-249-417-11	CARBON	1K	5%	1/4W	
R1803	1-247-887-00	CARBON	220K	5%	1/4W	
R1804	1-249-437-11	CARBON	47K	5%	1/4W	
R1805	1-247-895-00	CARBON	470K	5%	1/4W	
R1806	1-249-428-11	CARBON	8.2K	5%	1/4W	
R1807	1-249-423-11	CARBON	3.3K	5%	1/4W	
R1808	1-249-426-11	CARBON	5.6K	5%	1/4W	
R1809	1-249-433-11	CARBON	22K	5%	1/4W	
R1810	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1811	1-216-463-00	METAL OXIDE	12K	5%	2W	F
R1812	1-215-875-11	METAL OXIDE	10K	5%	1W	F
R1813	1-249-405-11	CARBON	100	5%	1/4W	
R1814	1-249-441-11	CARBON	100K	5%	1/4W	
R1815	1-215-869-11	METAL OXIDE	1K	5%	1W	F
R1816	1-249-437-11	CARBON	47K	5%	1/4W	
R1817	1-249-441-11	CARBON	100K	5%	1/4W	
R1818	1-249-406-11	CARBON	120	5%	1/4W	
		<VARIABLE RESISTORF>				
RV1801	1-228-993-00	RES, ADJ, METAL GLAZE 4.7K				
		<TRANSFORMER>				
T1801	1-437-212-11	TRANSFORMER, FERRITE (VPDT)				
		<CONNECTOR>				
VC15	*1-573-299-11	CONNECTOR, BOARD TO BOARD 10P				

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*1-643-663-11 HX1 BOARD
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REF.NO.	PART NO.	DESCRIPTION				REMARK
		<CAPACITOR>				
C1603	1-124-589-11	ELECT	47MF	20%	16V	
C1604	1-124-589-11	ELECT	47MF	20%	16V	
		<DIODE>				
D1601	8-719-812-41	DIODE TLR124				
D1602	8-719-812-41	DIODE TLR124				
		<CONNECTOR>				
HX137	*1-564-514-11	PLUG, CONNECTOR 11P				
		<IC>				
IC1601	8-741-148-33	IC SBX1483-59				
		<RESISTOR>				
R1601	1-249-408-11	CARBON	180	5%	1/4W	
R1602	1-249-407-11	CARBON	150	5%	1/4W	
R1604	1-249-419-11	CARBON	1.5K	5%	1/4W	
R1605	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1606	1-249-425-11	CARBON	4.7K	5%	1/4W	
R1607	1-249-430-11	CARBON	12K	5%	1/4W	
		<SWITCH>				
S1601	1-572-198-11	SWITCH, KEYBOARD				
S1604	1-572-198-11	SWITCH, KEYBOARD				
S1605	1-572-198-11	SWITCH, KEYBOARD				
S1606	1-572-198-11	SWITCH, KEYBOARD				
S1607⚠	1-572-198-11	SWITCH, KEYBOARD (POWER)				

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HX2 U

REF.NO.	PART NO.	DESCRIPTION				REMARK
	*1-643-664-11	HX2 BOARD				
		*********				

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D1650	8-719-108-12	DIODE RD9.1E-W	
D1651	8-719-108-12	DIODE RD9.1E-W	
D1652	8-719-108-12	DIODE RD9.1E-W	
D1653	8-719-108-12	DIODE RD9.1E-W	
D1654	8-719-108-12	DIODE RD9.1E-W	
D1655	8-719-108-12	DIODE RD9.1E-W	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
HX216	*1-564-525-11	PLUG, CONNECTOR 10P	
HX2-49	*1-564-518-11	PLUG, CONNECTOR 3P	

<JACK>

REF.NO.	PART NO.	DESCRIPTION	REMARK
J1650	1-695-307-11	TERMINAL BLOCK, S 3P	

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REF.NO.	PART NO.	DESCRIPTION	REMARK
	*A-1373-326-A	U BOARD, COMPLETE	
		*****************	
	*4-341-751-01	EYELET (EY1003~EY1005)	
	*4-341-752-01	EYELET (EY1006)	

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C1004	1-102-125-00	CERAMIC	0.0047MF	10%	50V	
C1005	1-126-301-11	ELECT	1MF	20%	50V	
C1006	1-164-096-11	CERAMIC	0.01MF		50V	
C1007	1-124-598-11	ELECT	22MF	20%	25V	
C1008	1-124-598-11	ELECT	22MF	20%	25V	
C1010	1-124-465-00	ELECT	0.47MF	20%	50V	
C1011	1-124-465-00	ELECT	0.47MF	20%	50V	
C1012	1-124-465-00	ELECT	0.47MF	20%	50V	
C1013	1-102-125-00	CERAMIC	0.0047MF	10%	50V	
C1014	1-126-163-11	ELECT	4.7MF	20%	50V	
C1016	1-126-163-11	ELECT	4.7MF	20%	50V	
C1018	1-126-301-11	ELECT	1MF	20%	50V	
C1020	1-124-242-00	ELECT	33MF	20%	25V	
C1021	1-124-465-00	ELECT	0.47MF	20%	50V	
C1022	1-124-242-00	ELECT	33MF	20%	25V	
C1026	1-164-048-11	CERAMIC	12PF	5%	50V	
C1027	1-164-048-11	CERAMIC	12PF	5%	50V	
C1028	1-124-242-00	ELECT	33MF	20%	25V	
C1029	1-124-282-00	ELECT	22MF	20%	16V	
C1030	1-124-478-11	ELECT	100MF	20%	25V	
C1031	1-102-963-00	CERAMIC	33PF	5%	50V	
C1034	1-124-282-00	ELECT	22MF	20%	16V	
C1036	1-124-282-00	ELECT	22MF	20%	16V	
C1037	1-124-282-00	ELECT	22MF	20%	16V	
C1039	1-124-478-11	ELECT	100MF	20%	25V	
C1047	1-124-465-00	ELECT	0.47MF	20%	50V	
C1048	1-126-301-11	ELECT	1MF	20%	50V	
C1049	1-124-598-11	ELECT	22MF	20%	25V	
C1051	1-124-465-00	ELECT	0.47MF	20%	50V	
C1055	1-124-589-11	ELECT	47MF	20%	16V	
C1056	1-124-499-11	ELECT	1MF	20%	50V	
C1057	1-124-768-11	ELECT	4.7MF	20%	50V	
C1059	1-124-499-11	ELECT	1MF	20%	50V	
C1060	1-124-499-11	ELECT	1MF	20%	50V	
C1061	1-124-499-11	ELECT	1MF	20%	50V	
C1062	1-102-129-00	CERAMIC	0.01MF	10%	50V	
C1063	1-124-768-11	ELECT	4.7MF	20%	50V	
C1066	1-126-101-11	ELECT	100MF	20%	16V	
C1070	1-126-103-11	ELECT	470MF	20%	16V	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D1005	8-719-110-36	DIODE RD13ES-B2	
D1009	8-719-110-36	DIODE RD13ES-B2	
D1010	8-719-110-36	DIODE RD13ES-B2	
D1011	8-719-110-36	DIODE RD13ES-B2	
D1012	8-719-110-36	DIODE RD13ES-B2	
D1013	8-719-110-36	DIODE RD13ES-B2	
D1014	8-719-110-36	DIODE RD13ES-B2	
D1017	8-719-110-36	DIODE RD13ES-B2	
D1018	8-719-110-36	DIODE RD13ES-B2	
D1019	8-719-110-36	DIODE RD13ES-B2	
D1020	8-719-109-66	DIODE RD3.3ES-B2	
D1021	8-719-109-66	DIODE RD3.3ES-B2	
D1022	8-719-109-66	DIODE RD3.3ES-B2	
D1025	8-719-911-19	DIODE 1SS119	
D1026	8-719-911-19	DIODE 1SS119	
D1027	8-719-911-19	DIODE 1SS119	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC1002	8-752-056-50	IC CXA1545S	
IC1011	8-759-145-57	IC UPC4557C	

<COIL>

REF.NO.	PART NO.	DESCRIPTION		REMARK
L1001	1-408-422-00	INDUCTOR	120UH	
L1002	1-408-422-00	INDUCTOR	120UH	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q1009	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1010	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1016	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1017	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1018	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1019	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1020	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1021	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1022	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1023	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1025	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1029	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1030	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1031	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1032	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1033	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1034	8-729-119-76	TRANSISTOR 2SA1175-HFE	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1011	1-249-435-11	CARBON	33K	5%	1/4W	
R1012	1-249-434-11	CARBON	27K	5%	1/4W	
R1013	1-249-417-11	CARBON	1K	5%	1/4W	
R1014	1-249-441-11	CARBON	100K	5%	1/4W	
R1015	1-215-437-00	METAL	4.7K	1%	1/4W	
R1016	1-249-441-11	CARBON	100K	5%	1/4W	
R1017	1-249-405-11	CARBON	100	5%	1/4W	
R1018	1-249-427-11	CARBON	6.8K	5%	1/4W	
R1019	1-249-427-11	CARBON	6.8K	5%	1/4W	
R1023	1-249-405-11	CARBON	100	5%	1/4W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1026	1-215-437-00	METAL	4.7K	1%	1/4W	
R1028	1-249-434-11	CARBON	27K	5%	1/4W	
R1029	1-249-435-11	CARBON	33K	5%	1/4W	
R1030	1-249-417-11	CARBON	1K	5%	1/4W	
R1032	1-249-417-11	CARBON	1K	5%	1/4W	
R1033	1-249-393-11	CARBON	10	5%	1/4W	F
R1034	1-249-417-11	CARBON	1K	5%	1/4W	
R1036	1-249-440-11	CARBON	82K	5%	1/4W	
R1037	1-249-440-11	CARBON	82K	5%	1/4W	
R1038	1-249-440-11	CARBON	82K	5%	1/4W	
R1043	1-249-417-11	CARBON	1K	5%	1/4W	
R1046	1-249-413-11	CARBON	470	5%	1/4W	
R1048	1-249-405-11	CARBON	100	5%	1/4W	
R1050	1-249-405-11	CARBON	100	5%	1/4W	
R1051	1-249-417-11	CARBON	1K	5%	1/4W	
R1052	1-249-413-11	CARBON	470	5%	1/4W	
R1054	1-249-405-11	CARBON	100	5%	1/4W	
R1055	1-249-413-11	CARBON	470	5%	1/4W	
R1056	1-249-405-11	CARBON	100	5%	1/4W	
R1057	1-249-441-11	CARBON	100K	5%	1/4W	
R1059	1-249-405-11	CARBON	100	5%	1/4W	
R1061	1-249-409-11	CARBON	220	5%	1/4W	
R1062	1-249-441-11	CARBON	100K	5%	1/4W	
R1063	1-249-409-11	CARBON	220	5%	1/4W	
R1066	1-215-437-00	METAL	4.7K	1%	1/4W	
R1067	1-215-437-00	METAL	4.7K	1%	1/4W	
R1068	1-215-437-00	METAL	4.7K	1%	1/4W	
R1069	1-215-437-00	METAL	4.7K	1%	1/4W	
R1070	1-249-411-11	CARBON	330	5%	1/4W	
R1071	1-249-431-11	CARBON	15K	5%	1/4W	
R1073	1-249-431-11	CARBON	15K	5%	1/4W	
R1077	1-249-418-11	CARBON	1.2K	5%	1/4W	
R1078	1-249-418-11	CARBON	1.2K	5%	1/4W	
R1079	1-249-405-11	CARBON	100	5%	1/4W	
R1080	1-215-423-00	METAL	1.2K	1%	1/4W	
R1081	1-215-421-00	METAL	1K	1%	1/4W	
R1089	1-249-405-11	CARBON	100	5%	1/4W	
R1094	1-249-405-11	CARBON	100	5%	1/4W	
R1096	1-249-415-11	CARBON	680	5%	1/4W	
R1099	1-249-413-11	CARBON	470	5%	1/4W	
R1100	1-249-429-11	CARBON	10K	5%	1/4W	
R1101	1-249-405-11	CARBON	100	5%	1/4W	
R1110	1-249-415-11	CARBON	680	5%	1/4W	
R1116	1-249-441-11	CARBON	100K	5%	1/4W	
R1118	1-249-413-11	CARBON	470	5%	1/4W	
R1121	1-249-441-11	CARBON	100K	5%	1/4W	
R1133	1-249-405-11	CARBON	100	5%	1/4W	
R1134	1-249-405-11	CARBON	100	5%	1/4W	
R1138	1-249-415-11	CARBON	680	5%	1/4W	
R1139	1-249-413-11	CARBON	470	5%	1/4W	
R1140	1-249-413-11	CARBON	470	5%	1/4W	
R1141	1-249-413-11	CARBON	470	5%	1/4W	
R1142	1-249-415-11	CARBON	680	5%	1/4W	
R1147	1-249-405-11	CARBON	100	5%	1/4W	
R1148	1-249-405-11	CARBON	100	5%	1/4W	
R1149	1-249-417-11	CARBON	1K	5%	1/4W	
R1150	1-249-405-11	CARBON	100	5%	1/4W	
R1151	1-249-405-11	CARBON	100	5%	1/4W	
R1152	1-249-417-11	CARBON	1K	5%	1/4W	

<CONNECTOR>

U12	1-573-300-11	CONNECTOR, BOARD TO BOARD 18P
U13	1-573-300-11	CONNECTOR, BOARD TO BOARD 18P
U16	*1-564-513-11	PLUG, CONNECTOR 10P
U22	1-566-942-11	CONNECTOR,HINGE(RECEPTACLE)30P
U23	*1-566-367-11	CONNECTOR, HINGE (RECEPTACLE)
U32	*1-564-510-11	PLUG, CONNECTOR 7P
U50	*1-564-505-11	PLUG, CONNECTOR 2P

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*A-1373-330-A UT BOARD, COMPLETE
****

<CAPACITOR>

C1152	1-102-074-00	CERAMIC	0.001MF	10%	50V
C1153	1-164-096-11	CERAMIC	0.01MF		50V
C1154	1-164-096-11	CERAMIC	0.01MF		50V
C1155	1-126-103-11	ELECT	470MF	20%	16V
C1158	1-124-598-11	ELECT	22MF	20%	25V
C1159	1-124-598-11	ELECT	22MF	20%	25V
C1160	1-124-598-11	ELECT	22MF	20%	25V
C1161	1-124-598-11	ELECT	22MF	20%	25V
C1164	1-126-103-11	ELECT	470MF	20%	16V
C1165	1-126-301-11	ELECT	1MF	20%	50V
C1166	1-126-301-11	ELECT	1MF	20%	50V
C1167	1-126-301-11	ELECT	1MF	20%	50V
C1168	1-126-301-11	ELECT	1MF	20%	50V

<DIODE>

D1151	8-719-110-36	DIODE RD13ES-B2
D1152	8-719-110-36	DIODE RD13ES-B2
D1158	8-719-110-36	DIODE RD13ES-B2
D1159	8-719-110-36	DIODE RD13ES-B2
D1160	8-719-110-36	DIODE RD13ES-B2
D1161	8-719-110-36	DIODE RD13ES-B2
D1162	8-719-110-36	DIODE RD13ES-B2
D1163	8-719-110-36	DIODE RD13ES-B2
D1164	8-719-110-36	DIODE RD13ES-B2
D1165	8-719-110-36	DIODE RD13ES-B2
D1166	8-719-110-36	DIODE RD13ES-B2
D1167	8-719-110-36	DIODE RD13ES-B2
D1168	8-719-110-36	DIODE RD13ES-B2
D1169	8-719-110-36	DIODE RD13ES-B2
D1170	8-719-110-36	DIODE RD13ES-B2
D1171	8-719-110-36	DIODE RD13ES-B2

<JACK>

J1003	1-573-970-11	BLOCK, (S) TERMINAL
J1004	1-695-304-11	TERMINAL BLOCK, S
J1005	1-695-054-11	JACK BLOCK, PIN
J1006	1-573-970-11	BLOCK, (S) TERMINAL
J1007	1-573-969-11	JACK BLOCK, PIN

<RESISTOR>

R1153	1-249-403-11	CARBON	68	5%	1/4W
R1154	1-249-426-11	CARBON	5.6K	5%	1/4W
R1158	1-247-804-11	CARBON	75	5%	1/4W
R1166	1-247-895-00	CARBON	470K	5%	1/4W
R1167	1-247-895-00	CARBON	470K	5%	1/4W
R1168	1-247-895-00	CARBON	470K	5%	1/4W
R1169	1-249-403-11	CARBON	68	5%	1/4W
R1170	1-249-403-11	CARBON	68	5%	1/4W
R1171	1-247-895-00	CARBON	470K	5%	1/4W
R1172	1-247-895-00	CARBON	470K	5%	1/4W

UT | K | S

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1173	1-247-804-11	CARBON	75	5%	1/4W	
R1174	1-247-895-00	CARBON	470K	5%	1/4W	
R1175	1-247-895-00	CARBON	470K	5%	1/4W	
R1176	1-247-804-11	CARBON	75	5%	1/4W	
R1177	1-247-804-11	CARBON	75	5%	1/4W	
R1178	1-247-895-00	CARBON	470K	5%	1/4W	
R1179	1-247-895-00	CARBON	470K	5%	1/4W	
R1180	1-247-804-11	CARBON	75	5%	1/4W	
R1181	1-247-804-11	CARBON	75	5%	1/4W	
R1182	1-247-804-11	CARBON	75	5%	1/4W	
R1183	1-247-895-00	CARBON	470K	5%	1/4W	
R1184	1-247-895-00	CARBON	470K	5%	1/4W	
R1185	1-247-895-00	CARBON	470K	5%	1/4W	
R1186	1-247-895-00	CARBON	470K	5%	1/4W	
R1187	1-247-804-11	CARBON	75	5%	1/4W	
R1188	1-247-804-11	CARBON	75	5%	1/4W	
R1191	1-215-437-00	METAL	4.7K	1%	1/4W	
R1192	1-215-437-00	METAL	4.7K	1%	1/4W	
R1193	1-215-437-00	METAL	4.7K	1%	1/4W	
R1194	1-215-437-00	METAL	4.7K	1%	1/4W	
R1195	1-249-426-11	CARBON	5.6K	5%	1/4W	
R1196	1-249-426-11	CARBON	5.6K	5%	1/4W	

<SWITCH>

S1150	1-572-198-11	SWITCH, KEYBOARD

<CONNECTOR>

UT22	*1-566-941-11	CONNECTOR, HINGE (TAB) 30P
UT23	*1-566-641-11	CONNECTOR, HINGE (TAB) 18P
UT35	*1-564-518-11	PLUG, CONNECTOR 3P

****

*1-643-668-11 K BOARD
****

<JACK>

J1701	*1-573-962-11	CONNECTOR (MALE) 50P

<CONNECTOR>

K39	*1-564-521-11	PLUG, CONNECTOR 6P
K41	*1-564-519-11	PLUG, CONNECTOR 4P

<TRANSISTOR>

Q1701	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q1702	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q1703	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q1704	8-729-119-76	TRANSISTOR 2SA1175-HFE

<RESISTOR>

R1701	1-249-433-11	CARBON	22K	5%	1/4W
R1702	1-249-433-11	CARBON	22K	5%	1/4W
R1703	1-249-433-11	CARBON	22K	5%	1/4W
R1704	1-249-433-11	CARBON	22K	5%	1/4W
R1705	1-249-433-11	CARBON	22K	5%	1/4W
R1706	1-249-433-11	CARBON	22K	5%	1/4W
R1707	1-249-433-11	CARBON	22K	5%	1/4W
R1708	1-249-433-11	CARBON	22K	5%	1/4W

****

*1-643-669-11 S BOARD
****

<CAPACITOR>

C3403	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C3408	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C3409	1-124-477-11	ELECT	47MF	20%	16V
C3411	1-124-034-51	ELECT	33MF	20%	16V

<IC>

IC3401	8-759-403-44	IC MN1280-S
IC3402	8-759-070-42	IC M37201M6-A18FP

<COIL>

L3401	1-408-421-00	INDUCTOR	100UH

<RESISTOR>

R3401	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R3402	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R3403	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R3404	1-216-033-00	METAL GLAZE	220	5%	1/10W
R3405	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R3406	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R3407	1-216-033-00	METAL GLAZE	220	5%	1/10W
R3408	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R3409	1-216-033-00	METAL GLAZE	220	5%	1/10W
R3476	1-216-295-00	METAL GLAZE	0	5%	1/10W

<CONNECTOR>

S45	*1-564-511-71	PLUG, CONNECTOR 8P
S46	*1-564-506-11	PLUG, CONNECTOR 3P

<CRYSTAL>

X3401	1-577-082-11	VIBRATOR, CERAMIC

****

MISCELLANEOUS
****

	⚠ 1-417-177-11	SELECTOR, ANTENNA (AS-1)
	⚠ 1-426-575-11	COIL, DEGAUSSING
	⚠ 1-426-576-11	COIL, DEGAUSSING
	⚠ 1-451-393-11	DEFLECTION YOKE (Y34EXA)
	1-452-032-00	MAGNET, DISK: 10MM ϕ
	1-452-094-00	MAGNET, ROTATABLE DISK: 15MM ϕ
	⚠ 1-452-616-12	NECK ASSY, PICTURE TUBE (NA323)
	*1-555-400-00	CABLE, PIN
	⚠ 1-696-002-12	CORD, POWER (WITH NOISE FILTER)
V901	⚠ 8-733-731-05	PICTURE TUBE (M81KVA10X)

****

ACCESSORIES AND PACKING MATERIALS
****

1-559-913-11	CABLE, ANTENNA CONNECTION
3-755-525-21	MANUAL, INSTRUCTION (ENGLISH)
3-755-525-31	MANUAL, INSTRUCTION (FRENCH) (CND)

REF.NO.	PART NO.	DESCRIPTION	REMARK
	3-755-525-41	MANUAL, INSTRUCTION (SPANISH)(US)	
	*4-031-871-01	BAG, PROTECTION	
	*4-036-704-01	CUSHION (UPPER) (ASSY)	
	*4-036-706-01	CUSHION (LOWER) (ASSY)	
	*4-036-941-01	INDIVIDUAL CARTON	
		REMOTE COMMANDER	
	8-917-140-90	REMOTE COMMANDER (RM-AV1100)	
	9-995-517-01	COVER, BATTERY (FOR RM-AV1100)	

Sony Corporation
TV Group

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